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Medical and Surgical Journal.

SEMI-MONTHLY.

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Original Contributions.

ARTICLE V.

THE MASTOID REGION AND ITS DISEASES, WITH ILLUSTRATIVE CASES.[1] By LAURENCE TURNBULL, M. D., Aural Surgeon to Jefferson Medical College Hospital, Philadelphia.

Any one who has examined a large number of specimens of the human crania, will be struck with the variety of forms of the mastoid process and cells; rarely in the processes of the same individual are they alike. Hyrtl[2] in an examination of six hundred skulls, only found three in which the occipital bone helped to form the mastoid cells. I have frequently found in old persons an almost complete want of the larger cells and in a few instances, I have found scarcely any cells at all.

The cavity which develops into the mastoid or air cells in recently born children, as a rule, is of considerable size, to which rule, however, there are numerous exceptions. In shape the cavity is a pyramid, one of whose surfaces is directed upwards and is formed by the roof of the tympanum. According to

1. Read by title in the Section of Otology, Congrès Périodique des Sciences Médicales, 6th Session, Amsterdam, September, 1879.

2. Wiener Med. Wochenschrift. 1860.

Schwartze[3] the cavity is 8 mm. long, 7 mm. high, and it gradually increases in size and changes in form, becoming larger at one end than at the other.

Dr. Hartmann[4] has called attention to the fact that in twenty-one sections of the temporal bone in children he found the average thickness of the bony walls between the antrum and the posterior fossa of the cranium to be 4 mm., while in twelve temporal bones of children at the age of 1 to 5 years, the antrum was separated from the posterior fossa of the cranium by a bony wall that averaged but 2 mm. in thickness, and in five cases by a bony lamella that was scarcely 1 mm. thick. From his opinion of these measurements he has expressed himself, as regards the origin of the cells: "Since the cavity is again found smaller in later years, this can only happen by a narrowing from the sides, that is to say by an encroachment of the partition walls of the cells."

Pathology.—In very young children the inflammatory process spreads from the tympanum to the antrum petrosum much more quickly than at a later period. There are numerous cases in which symptoms of meningitis arise in a recently born child a few days after the appearance of an "otitis media purulenta." I have found that if the discharge "otorrhœa" is free and not checked, symptoms of meningitis all dissappear, but if it is small in quantity and thin and bloody, or if it is suddenly checked it almost always results in the death of the child. If the child is older there is less danger of cerebral affection, as the intelligent child is able to describe symptoms and the ear is treated promptly. In the infant there is nothing to guide us but the cry or the evidence of pain upon pressure behind the ear.

The second stage, i. e., propagation of the extra secretion, particularly when partly obstructed. These forms in scrufulous, tuberculous and syphilitic children, also in very violent purulent inflammation of the middle ear, are the result of scarlet fever; the large collections of secretion make their way along the mastoideo-squamous suture, forming an abscess behind and beneath the auricle, which either opens spontaneously or is increased in size and the bone is necrosed, as in the following case:

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3. Ueber die Künstliche Eröffnung des Warzenfortsalzes, Archive für Opienkeep Band, vii.

4. Ueber die Perforation des Wartzenfortsätzes; Langenbeck's Archiv. Bd. xxi.

CASE I.—A. H., æt. 2½ years, a fully developed child of a healthy, strong mother, but the father is in the second stage of tuberculous phthisis. The child has had a purulent otorrhœa for two years. There appeared a large abscess behind the ear which for a time was poulticed, until it opened spontaneously. After some months the inflammation subsided and a loosened sequestrum of bone was removed by enlarging the opening. The child to all appearances got well. About twelve months afterwards a second abscess formed in the same locality and caused the involvement of a larger quantity of bone. The head was drawn down toward the neck on the same side, and the upper part of the neck became swollen as if the spinal column was involved. The bone, in the second attack, did not come to the surface, nor did the inflammation disappear, but gradually the bone was broken down and a large amount of it was removed by discharge of small particles. Tonics, cod liver oil, iron and sea air were employed to expedite the slow cure.

CASE II.—Henry H., æt. 5 years. A pale, delicate, scrofulous boy was brought to the clinic of Howard Hospital with a large post aural opening, discharging pus. There were found numerous sinuses with rough denuded bone underneath, but no loosening or detachment of bone, nor was any part movable by the probe or forceps. He was directed to use an antiseptic wash to the openings. A few days afterwards the discharge had ceased, the temperature had arisen to 102°, the pulse could not be counted and convulsions and death soon followed.

In this case there was no doubt in my mind that the cerebrum was affected, for there was present persistent pain in the head, vomiting, strabismus and convulsions of one side.

CASE III.—Mary E. C., æt. 15 years. Her mother, of decided tuberculous tendency, her father is healthy. The girl has suffered from otitis media purulenta of two years, following a cold, and this had gradually improved, with some loss of hearing. She has been at times affected with distressing vertigo, so that if she had not taken hold of some support she would have fallen. She is deaf in the left ear, a rim of the membrana tympani remaining. She gradually became unable to leave her bed; she lay with her head bent forward on her chest, any movement giving her pain and increasing her vertigo. There have been two or three

slight convulsive movements and internal strabismus was present. When the tongue is protruded there is a tendency to the left side. She gradually passed into a state of coma and died.

Without going into the minute details of the post mortem, it is sufficient to say that there was no abscess or disease of the cerebrum. The cerebellum was softened and on it there was an abscess containing about two ounces of pus.

These three illustrative cases bear out the facts first announced by Toynbee, that up to the second or third year of life the cerebrum is most frequently affected, corresponding to the anatomical relations, while affections of the cerebellum and the transverse sinuses appear only at a later age.

Our old method was the removal of the sequestra of bone with the knife, probe, elevator and forceps. A new method has been proposed, called the "Volkmann," in which a small, delicate, sharp, spoon-like knife or gouge is employed. I have had such an instrument made and have operated in only one case with it, as yet. The result in this case was a success.

Schede, Schwartze and Hartmann[5] have treated a large number of cases with good results, and the following is Dr. Hartman's method of operating:

"An incision is to be made in at the insertion of the auricle and in such a way that the middle of the incision lies just below the level of the opening of the external auditory meatus. If a fistula is present the incision either passes through the fistulous opening, or is to be united with it by a diagonal incision. In making the incision through the soft parts we must take care not to cut forward, since the surface of the mastoid process passes over into the posterior wall of the auditory meatus, without any sharply defined boundaries, and by passing forward we run the risk of only loosening the posterior wall of the external auditory meatus, and from here reaching the membrana tympani. This rule seems of importance, and should be especially observed where the soft parts are greatly infiltrated. The incision should not be too small, but fully 2 to 3 cm. in length. The edges of the wound should be held apart with sharp hooks, so that after the bleeding has ceased the field of operation can be thoroughly examined.

5. On the formation of sequestra in the mastoid process of the child, by Dr. Arthur Hartmann, of Berlin. Translated by Dr. James A. Spalding, Arch. Otology, vol. viii, No. 1, New York, 1879.

"In all the cases in which I have operated either a fistula was already present or after the soft parts were cut through there was an opening in the bone which could be enlarged with the sharp spoon. In one case only did I have to employ the chisel in order to enlarge the small opening. The granulations lying in front are to be removed with the sharp spoon. If the antrum is opened and laid bare in this way it can be examined most carefully with the probe or with the tip of the finger introduced. If loosened sequestra are present they can be seized with pincers or forceps and extracted, or as proves most suitable, may be pried out with the spoon. The sharp spoon also offers the best services in removing the bone that has become softened by caries. The precautionary measure suggested by Schede, to use the sharp spoon only when the bone is found to be softened to a certain degree, is not to be neglected.

"In my operations I have followed the maxim of confining myself in the removal of the morbid parts to what was most needed—i. e., chiefly the removal of the granulations and the extraction of such sequestra as were fully loosened and could easily be reached. It seems then necessary in the after treatment to keep the wound open by a thick drainage tube, so that in the subsequent days we may have a full view into the depths of the wound, from which now the sequestra gradually loosening themselves may be detached with the probe and removed. It seems also desirable in the latter stage (as has been emphasized especially by Schwartze and v. Tröltsch) to keep the aperture open as long as possible by means of a leaden nail or a short leaden tube, until we are sure that the mastoid process is in a sound condition. The important point in the after treatment is the regular removal of the accumulated secretion, for which purpose we prefer syringing at first with antiseptic, later with neutral, and lastly with astringent fluids."

Mastoid in the Adult.—[6]In the adult the antrum is large enough to admit a small-sized pea. There are small veins through the upper portion of the process which form a medium of communication between the lateral sinus or its branch, the superior petrosal sinus, and the veins on the outside of the cra-

6. Transactions of the Medical Society of the State of Pennsylvania, vol. XII, part I; Dis. of Mastoid Process, with cases, by Laurence Turnbull, M. D., Ph. G.

nium. By this communication and close relation to the brain, if pus be formed and cannot find another outlet, death is apt to follow by pyæmic inflammation of the cerebrum or cerebellum. Disease of the mastoid process is divisible into the following forms: 1st, Inflammation of the external periosteum. 2d. Acute inflammation of the lining mucous membrane, followed by filling up of cells with a reddish, pulpy material, by accumulation of pus and with caries. 3d, Chronic sub-acute inflammation of the mucous membrane with sclerosis or hyperostosis. 4th, Periosteitis, independent of involvement of the mastoid cells.

Inflammation of the External Periosteum.—In the course of an otitis media diffusa, with or without discharge, the mastoid region begins to swell, becomes red, and very painful on pressure. If these symptoms occur in a healthy individual, the mastoid cells are rarely involved. When this same swelling takes place in a tuberculous, scrofulous or feeble adult, the prognosis is not favorable. In the first class of cases permanent relief is given by free depletion, or by an incision with a strong scalpel down through the periosteum to the bone. In the second class the disease almost always involves the deeper cells of the bone, which, becoming filled with pus, produce caries or necrosis. In children such diseased bone must be removed when suppuration brings the sequestrum to the surface, while in the adult an important operation has to be performed—i. e., perforation of the bone for the relief of the patient. The second class, or simple congestion of the mucous membrane of the mastoid cells, which we often see in its slightest form in acute inflammation of the middle ear, is most frequently the result of cold, and is to be relieved by cleansing the parts, and by local depletion by leeches, etc. Still, in its most aggravated form, nothing but an operation will relieve it.

CASE IV.—*Illustrating Inflammation of External Periosteum, with Sudden Stoppage of Discharge.*—Disease of mastoid process, with discharge from external meatus; recovery. Martin F., æt. 7 years, a large and robust boy, but of tuberculous family (father and four uncles having died of phthisis), was convalescent from scarlet fever, and was discharged well on March 15. Ten days later I was called in haste to see the boy. There was great pain and swelling behind the ear, over the mastoid process, but no dis-

charge from external meatus. He was freely leeched, and purgatives were administered, and followed by anodynes to relieve the pain. On the next day the swelling was on the increase, and had extended to the face and eyes, with fever and symptoms of convulsions. It was then proposed to cut down to the bone, dividing the periosteum, as the only means of relief, to which proposal the mother consented. An incision was made about an inch long behind the ear, and as nearly as possible parallel with the concha, which at this time stood almost horizontal. A profuse gush of blood followed, mixed with which was imperfectly formed pus. The wound bled and oozed for three days. The pain was much relieved, and by the use of bromide of potassium and with sulphate of morphia, he was able to sleep, which he had not done for two days. A poultice was applied on the third night, and by the fourth, pus flowed freely. This was encouraged, and by the end of the sixth week the wound was disposed to close; but this was prevented, and the discharge continued for four weeks longer, when the wound was allowed to close, as the roughness of the bone had disappeared.

Report several years afterwards: The young man is now 20 years of age, has enjoyed good health since, being able to be out in all weather; is bright and intelligent, and is at work in a cotton mill. His hearing in his left ear is gone; right very good. Over the mastoid cells of the left side there is a depression of a bluish color from loss of bone. Has never had a severe attack since, excepting now and then a slight discharge from the left ear. He has since lost his mother by phthisis.

CASE V.—*Of the Same Nature, which was not Treated.* James R., æt. 5 years, in 1862 had a similar swelling after an attack of scarlet fever; it opened of itself after long poulticing, and continued to discharge from the back of the ear for twelve months; it then ceased, leaving a deep depression behind the ear, with loss of hearing; the boy is imbecile and cannot articulate.

CASE VI.—*Disease of the Mastoid Process; Perforation of the Membrana Tympani; Recovery.* Mrs. A., æt. 35 years, whose case was of the same character as the one just reported, was treated in a similar manner with equally good results.

CASE VII.—*Abscesses over the Mastoid Process in Mother and Child; similarly treated and both recovered.*

March 25, Thomas N., æt. 5 years, applied at the Howard Hospital with an abscess over the mastoid process. He is convalescing from an attack of measles. The swelling back of the ear commenced three weeks previously, then subsided, and again began to swell. On examination, there was, besides the swelling, redness and slight fluctuation. There was no discharge from the ear. On informing the mother what was to be done, she replied: "Well, do what you think is right, as you performed the same operation upon my ear, when this child was only ten months old. I was at that time three months under your care and was cured and remain so." I examined the back of her ear and found a deep depression, where there had been loss of bone. Her hearing in that ear was not perfect, but she was not absolutely deaf. The operation was then performed on the boy, when, by the aid of the probe, the bone was found to be denuded of its periosteum. Being of a strumous habit, he was ordered syrup of the iodide of iron, a small poultice of ground flax seed, and subsequently, an ointment of the red oxide of mercury, to dress the part and anoint a tent so as to keep it open.

April 1st the wound suppurated freely, but the opening was disposed to close and it was accordingly enlarged and the previous treatment continued, accompanied with good diet and exercise in the open air. By the end of the month he was reported well, wound healed and all swelling had disappeared.

CASE VIII. — *Perforation of the Mastoid Process; Otorrhœa; Removal of Necrosed Bone; Recovery.* Mary R., æt. eight years, a robust looking child, came under my care at the Howard Hospital early in September, 1861. It was reported that she had suffered from scarlet fever of a most malignant type, having been in a state of coma for several days. This gradually passed away when the throat and ears became affected, and a long period elapsed before complete convalescence took place.

Present condition.—She is deaf in the right ear, with a constant discharge of offensive pus, etc. On washing out the parts, the meatus was found to have a white, soft deposit on its surface with granulations projecting from the tympanum through a perforation involving the greater part of the membrana tympani.

A weak wash of nitrate of silver in solution was to be used and the parts kept clean by repeated injections of tepid water.

Counter irritation was to be kept up in front of the ear and air was to be passed through the Eustachian tube to keep it open and at the same time force any accumulation of pus out from the middle ear. A guarded prognosis was given. Having improved considerably, she ceased attendance, and the writer saw nothing of her until called in haste to see her, a few weeks later. The history received from her father, an intelligent man, was as follows: The Sunday previous, being a very hot day, when the child was sleeping on a sofa, the father, to cool the house, opened both the front and back doors, and thus produced a strong draught of cool air which blew upon the sleeping child. After retiring she was attacked in the middle of the night with intense pain in her ear, so severe as to cause her to scream and at times become delirious. The parents applied a blister and used other means but the relief was of short duration. When I was called to her she was suffering intense pain, high fever alternating with chills, pulse one hundred and thirty, and there was swelling over the mastoid region, involving the side of the face and eye.

Treatment.—Believing that pus was formed in the mastoid cells and was endeavoring to make its way outwards, requiring only an outlet, I divided the skin, muscle and periosteum freely down to the bone. On withdrawing the knife, blood mixed with imperfectly formed pus, flowed very freely. A hot poultice was ordered to be repeated every few hours. A saline mixture of citrate of potassa, containing sulphate of morphia was prescribed to relieve pain.

Four days later, better. Pus discharging from the opening, which not being quite free enough, was stimulated by the application of powdered red oxide of mercury.

November—During this month, visited the case every few days. The opening being disposed to close, a sharp, hollow steel probe was used to perforate to the surface of the dense bone, and the solid nitrate of silver, which was applied freely, increased the discharge.

December.—In the early part of this month the opening was again enlarged and a piece of bone discharged. On the 19th carious bone was found by the probe to be movable, and by enlarging the wound a still larger piece was removed with some difficulty, the bleeding being very free. A few days after this operation the discharge ceased and the wound healed. There

was a deep depression behind the ear from loss of bone; the perforation in the membrana tympani had closed somewhat; the child was deaf in that ear, but otherwise well, and continued so for several years. The bone measures six-tenths of an inch in length and three-tenths of an inch in width. It is now in the writer's collection, and has been examined by numerous distinguished surgeons.

In the cases above related, which number might have been increased by many others, we have examples of three of the principal forms of disease of the mastoid region, which will be frequently met with by those who devote much attention to the ear, and occasionally by those who pay no particular attention to this special department.

In case IV the simple division of the periosteum, with the subsequent application of a blister, was all that was necessary to complete the cure. In the next case it required the second enlargement of the opening and the breaking down of the bone by the application of nitrate of silver.

The third class of cases is of greater danger to the patient, as it involves a large number of cells of the mastoid process. It, therefore, requires a free incision down to the bone, with its removal in a diseased state.

This operation of perforating the mastoid cells, December, 1861, and published February, 1862, was the first of the kind that had been performed in the United States (so far as the writer is aware), and has been repeated by him several times since.

CASE IX[7]—*Foreign body, with middle ear inflammation, involving the mastoid cells—Operation followed by erysipelas—Ultimate recovery.*—W. H., æt. 42, a merchant of Mahanoy City, Pa., consulted me in 1877, bringing a letter from his family physician, Dr. L. M. Thompson. The letter stated: "Patient has had a chronic suppurative inflammation of the left ear since childhood, the result of scarlet fever, accompanied with tinnitus of a distressing character, with intense pain over the temporal and mastoid region, extending also to the base of the brain. The pain which is now almost constant, is accompanied with attacks of oppression and giddiness, particularly when the eyes are directed upwards." While about his business he would, when these attacks

7. Transactions of Medical Society, ass. cit., vol. xii, part 1.

were coming on, by picking, or rather forcibly scraping or digging into the meatus as far and as deeply as possible, with a pencil, toothpick, pen-holder or knitting needle, provoke a discharge of pus, which afforded temporary relief. During one of these efforts at relief, and while much interested in his newspaper, he probed, literally dug, too deeply, and an attack of convulsions, followed by a partial paralysis, was the result. Various methods of treatment had been pursued, but the symptoms remained unchanged.

Status Præsens.—Left auricle red and swollen, meatus externus eczematous, discharge thin and offensive, canal narrowed, membrana tympani and ossicles gone, promontory glistening and in places sclerosed. No other details of middle ear to be made out on account of the swollen condition of the mucous membrane and canal. Eustachian tube pervious. Hears a loud voice, but not the watch, even on contact. Pain, on pressure, over mastoid and against the sides of the canal. Right ear normal. No particular throat trouble. Recommended, on his return, to use local depletion by leeches, followed by hot fomentations; also, large doses of bromide potassium, chloral and morphia, with quinine.

These means afforded but temporary relief to the pain, even after using half grain doses of morphia, hypodermically, every little while, as well as successive relays of leeches. I then advised a free post auricular incision (Wilde's) to be made through the integument down to the bone. This was most thoroughly done by his physician, who reported relief obtained for but a few days, after which time the symptoms returned as before. Finally, at the request of Dr. Thompson, the patient returned, to be under my immediate care, and was faithfully attended by myself and son for several weeks. Meanwhile, to be brief, the symptoms varied, at times better, then worse, and finally relapsed into the old condition. Our patient and his friends having grown impatient, I told them there was but one course to pursue, viz., that of perforating the mastoid.

The discharge had ceased, the painfulness and tinnitus had increased, giddiness and more or less delirium were constant, with loss of appetite and symptoms of a general breakdown; so that, after due deliberation and consideration of the just mentioned

grave symptoms, we decided, after consulting Drs. Thompson, Collins, Schapringer and C. S. Turnbull, to operate.

Mr. H. was admitted October 3, 1877. as a private patient, to the Jefferson Medical College Hospital, and I operated in the presence of Drs. S. W. Gross, J. H. Brinton, Collins, Allis, Wirgman, Poichet, James and my son. The post auricular incision previously made had not entirely healed. This I enlarged, and with a strong knife extended upwards, scraping as I went, and pushing the periosteum to either side. The bone was not found soft or abnormally rough. A drill was then applied at a point about a quarter of an inch distant from the auditory canal and below the level of its upper rim, rotating inward and slightly forward. The drill was withdrawn and carefully cleansed at intervals, and but slight force used, on account of the danger of slipping suddenly and breaking down the delicate cancellated cells of the mastoid. This care is necessary on account of the varying depth of the cells, which is apparent even on opposite sides of the same skull.

Upon reaching and opening the cells, no pus, but a dram or two of an aqueous and dark red colored fluid escaped. The wound was cleansed and sprayed with carbolized ether (kept up during the operation as well), packed with greased lint, and the patient put to bed. No anodyne was required, as the patient was so thoroughly narcotized with the amount of ether which was used. The after treatment consisted in the regular administration of beef tea and a nourishing diet, while the use of alcoholic stimulants was avoided. The wound was dressed twice in twenty-four hours, and after the third day a discharge commenced, which continued while the opening was kept plugged with a linen tent soaked in carbolized olive oil. The ear was thoroughly syringed every day. Our patient never seemed to rally, although he grew no worse, but at the end of the second week all hopes were checked by the appearance of an erysipelatous swelling in the neighborhood of the wound. This spread over the ear, cheek and entire face, but stopped abruptly before reaching the ear of the other side. Repeated doses of the muriated tinct. of iron, locally, with good diet and the attentions of Dr. Poichet, the resident physician, and nursing of a devoted wife, brought about a favorable result.

Convalescence soon commenced, particularly after a copious discharge of pus from the ear and wound, and just one month after

the operation our patient left for home, free from pain, mind quite clear, slight discharge from the ear, wound almost closed, and general condition rapidly improving. Since that time he has been under the judicious care of Dr. Thompson, through whose courtesy I received many bulletins.

A recent letter from Dr. Thompson says: "Mr. H. has never, since the operation, had enough pain to require even a mild anodyne, and he requests me to state that he has now no desire to dig in his ear on account of any disagreeable feeling; is able to see company, and he took dinner with his family, Thanksgiving day, November 29."

The following is an extract from a letter received from Dr. Thompson, the attending physician, which makes this history complete: "You will well remember with what tenacity Mr. H. insisted upon a portion of a toothpick being lost in the ear. Some weeks ago he withdrew the cotton from the ear, when, to his great surprise and delight, he discovered adhering by dried blood to the cotton, a piece of wood one-half inch long and from one-half to three-fourths of an inch in thickness. With its discharge the acute pain that had come on recently, ceased. The wood must have passed into the middle ear, and the discharge must have washed it out. No matter what the cause, or what produced the disease, we were justified in performing the operation, as the man must have died had it not been done."

We have repeatedly demonstrated upon the cadaver, and the following facts hold good: If the operation is made as usually directed in most of the works upon disease of the ear, viz., "On a line with the upper part of the auditory canal," the incision must penetrate deeply, enter the horizontal or sigmoid fossa or sinus. Again, if a probe be thrust through such an opening made in the cells, it is liable, even when but slight force is employed, to fracture the thin lamella of bone and cut the middle cerebral fossa, which would likely prove fatal. Therefore the knife, gouge, drill or trephine, should be inserted on a line with the superior edge of the auditory canal, but not at the upper edge, and the opening carried horizontally and a little forward and not upwards. In this way all the vital parts are avoided, and we sooner or later reach the large cells of the mastoid. The after treatment, in which great care must be exercised in cleansing or probing, constitutes a process which should be carried on every twelve hours.

Notwithstanding the dangers due to frequent anatomical deviations of the bone, the operation, when urgent, is highly to be recommended, and has now become a standard one.

CASE X.—*Inflammation of the Subcutaneous Tissue of the Supra and Postauricular Region, extending into the Middle Ear from which pus was discharged, which found its way through the posterior wall of the meatus, in which was a polypoid growth. Operation and recovery, with an abstract of five cases.*

E. S., aged forty-eight years, admitted to Jefferson Medical College Hospital from Chester County, Pennsylvania, April 10, 1879. There was only a brief history brought by the physician who accompanied him to the hospital. Exposure to intense cold in December, 1878, was followed by a succession of swellings back of the ear and ultimately a discharge from the ear. He had been leeched, cupped, blistered and iodine was employed with other applications to the post-auricular region, but the patient had gradually became worse, was feeble and now had a constant pain in his head. His physician also stated that he believed there was inflammation of the mastoid cells, and that they required perforation.

On examination of the patient in consultation with Prof. S. D. Gross and other members of the staff of the hospital, it was concluded that the cells were not involved. The following was his condition: Slight swelling on the upper part of the sterno-cleido-mastoid muscle, pain most severe in the afternoon on the upper part of the parietal bone, over which he kept up a constant rubbing with his hand. Examination with the speculum showed a polypoid growth or granulation tumor just within the meatus, which it filled up. After its removal a probe could be passed to the meatus, showing a connection between the posterior wall of the meatus and the post-auricular region, and pus also issued more freely when the post-auricular region was pressed upon; his pulse was 84, temperature 100°, and this continued, varying but little, until there was a more decided swelling, when the temperature reached 110°, i. e., just prior to the opening of the abscesses.

Prof. S. D. Gross advised blistering behind the ear, these to be followed by poultices, by quinine and iron internally, and painting the region with tincture of iodine; to relieve the constant pain chloral hydrate and potassium bromide were admin-

istered through the day, and a local anæsthetic of camphor and chloral to apply to the scalp, and a nourishing diet, with a hypodermic injection of morphia at night. After the application of the blister there was a contraction of the neck, which caused the head to be held to the same side. The discharge from his ear was thin, light-colored pus with no odor, the ear was kept clean and Politzer's douche was employed with hydrobromic ether vapor. The hearing had never been much impared. On the 26th day of April, the patient not improving, Drs. S. D. and S. W. Gross visited the case in consultation with me, and after examination they both came to the conclusion that there was a periosteitis and there was pus, and agreed with me that a deep and long incision must be made over the mastoid, which I performed *under hydrobromic ether*, down to the bone.

No pus followed the incision, but the hemorrhage was very free. The bone was not diseased, nor even roughened in the least. The incision was kept open for some days by a tent saturated with carbolic acid and olive oil, and over the parts a poultice was constantly applied. The following day the patient's pulse was 80, and temperature 99°, pain much relieved, and he was directed to continue quinine and iron in pill form with milk punch and nourishing food.

April 28th, pulse and temperature the same; 29th and 30th, the pulse about the same, was out in ward, and even took a walk in the open air; continued to do well until the 5th of May, when the temperature arose 101½°, pulse 92. The patient was much disturbed with his pain, there was a swelling on a line with the sterno-cleido-mastoid muscle, with a slight chill and an abscess formed near the point of incision, and was freely opened. From this time the pulse was reduced to 80, and temperature to 99°, he made a slow but sure convalescence, and was discharged well on May 9, 1879.

On carefully studying this case, which at first was very obscure, not having seen it for five months from commencement of attack, when he entered the hospital, and was placed under my care, I felt satisfied that the mastoid cells were not involved, because the swelling was very low down in the supra and post-auricular region, the pain was never over the larger cells, but high up near the top of the parietal bone, which latter indicated brain abscess, but without other symptoms to confirm it. I there-

fore placed it as a pain of a reflex character from irritation of the small occipital and auriculo-temporal nerve.

On reading the report of cases by Voltolini,[8] in which he directs attention to *a form of mastoid periostitis, as undescribed, by otological authorities.* (I felt sure that this was a similar case, such as he described, although there was more disease of the external than of the middle ear, and which may have occurred from the use of irritating applications). The ear, Voltolini states, may remain intact, but may sometimes in the course of the disease participate in the inflammation. "The disease begins with severe tearing pains on one or both sides of the head, which extend to the side of the face and teeth. The pain is sometimes referred to carious teeth by the patient, but later, fever sets in, and the pain becomes localized above the posterior auricular region, the mastoid surface becomes swollen, red, tense and exceedingly tender. If active antiphlogistic treatment does not relieve these symptoms the case progresses to suppuration, under which circumstances the best remedy is always the knife." The same rule has always held good in regard to the early use of the knife, which Wilde recommended where superficial periosteitis followed an acute inflammation of the middle ear with a sudden checking of the discharge. In the three cases reported by Voltolini all were the result of cold and exposure. In the first case after the use of leeches, which did not diminish the symptoms on the following day, a long and deep incision was made over the mastoid. The pain was almost immediately relieved, the patient slept well and made a good recovery.

The second case was treated by the family physician for a supposed disease of the ear. Being called in consultation, I found the following condition: The region behind and above the ear was swollen, red and tender; with the exception of a slight swelling on the superior posterior wall of the external auditory canal, the outer ear was normal. The membrana tympani presented no special abnormal appearances, nor was there any evidence of more deep-seated trouble. Three days later, after application of poultices, and after an incision was made above and behind the ear, with liberation of considerable saneous pus

8. R. Voltolini: "Die Acute Zellhautentzündung in der supra- und postauricular Gegend." Monats. für Ohrenheilkunde, Dec. 1875, p. 789.

Patented in Great Britain and Ireland, France, United States of America and Canada, 1876.

JOHNSTON'S FLUID BEEF,

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The efficacy of "Liebig's Extract of Meat" as a harmless stimulant is everywhere acknowledged, but, outside medical or scientific circles, it is not generally known that all extracts of Beef, including home-made beef tea, are simply flavor of meat, (technically, the soluble salts of flesh,) and ARE NOT IN ANY REAL SENSE NUTRITIOUS, the process of preparation necessitating the entire exclusion of the insoluble or nutritious constituents of the Beef.

The medical profession has long realized this vital imperfection in all extracts of meat, and desiderated a food for invalids which shall combine the stimulative and nutritious properties of Beef, and be at once palatable and easily digestible. THIS PREPARATION CLAIMS TO MEET THE WANT. It has been submitted to the most searching chemical analysis by the leading analysts of Great Britain, and has been adopted in their practice by the highest medical authorities, all being as one in their appreciation of its substantial merits. It is now offered to the notice of the medical faculty of this country and to the general public, with full confidence that it has but to be known to be popularly accepted.

To obtain a perfect Beef Tea, it is essential that the albumen and fibrine (which are the flesh-forming or nutritious qualities of meat) shall be added to the extractive or stimulative qualities, and that these shall be present in a form admitting of easy digestion by the most capricious and irritable stomach. This is the theory which led to the preparation of "JOHNSTON'S FLUID BEEF" (the only meat extract which fulfills all the conditions of a perfect food.

Dr. Nichols, 131 Spruce street, Philadelphia, says: "I have used it in a case of a child suffering from extreme debility after an attack of cholera infantum; the child began to improve immediately, and is still taking the Fluid Beef. I find it very palatable and nourishing, easily digested, and am satisfied that the contained fibrine is perfectly assimilated by the tissues of the body, as shown by a great gain of strength, etc. I feel assured it will meet with general favor."

Dr. Malcom Macfarlane, 1805 Chestnut street, says: "It is with unusual pleasure and confidence that I give my recommendation to Johnston's Fluid Beef. It is in the best form and the best preparation with which I am acquainted or have used."

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Its adaptability is general to the invalid, the convalescent and the vigorous. To children it secures a strong muscular development, and for maternal nursing, imperfect mastication, athletic training, physical exhaustion, indigestion or mental overstrain, it is the perfection of known food.

DIRECTIONS FOR USE. Add a small teaspoonful to a cup of boiling water, and season to taste: or as a sandwich paste it may be used on toast, with or without butter The can may remain open for weeks without detriment to the contents.

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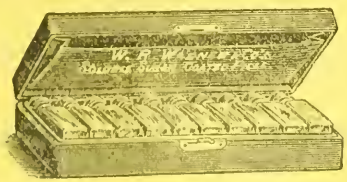

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and relief of pain, which relief continued to the termination of the case in recovery.

The third case given did not end so fortunately; the mastoid region became swollen, and the proposal for an incision made by the physician called in attendance being firmly refused, the inflammation took its course. The application of poultices finally induced a spontaneous opening and discharge, with some relief to pain, which still continued in a measure. Nine months after the first attack the patient was seen accidentally, and he found the following conditions present: The hearing was but slightly diminished, as the patient could easily hear conversation in the ordinary tone. The region behind and above both ears was much swollen and relaxed, pus discharged from the left ear having found its way through the posterior wall of the meatus (as in the case No. 10); fistulous openings in the neck lead upward to the original seat of the inflammatory process, the pus having burrowed on both sides for a distance of from two to three inches before escaping.

Free incisions, opening up the channels through which the pus had burrowed, were made, but a careful examination failed to detect any implication of the bone; this treatment followed by poultices seemed of good effect and the patient improved with nourishing food and rest; on the third day fever set in with increased weakness, erysipelatous inflammation attacked the edges of the cuts and then extended over the scalp, and on the ninth day after the operation the patient died.

A study of these cases (one by Dr. Blake, of Boston, and one by Dr. H. Knapp, of New York[9]) and ours reported as above, shows the disease to be neither one of the auricle, the external auditory canal, the tympanic cavity, nor the mastoid cells, but one that originates without, and not within the ear, and one that might progress inward, but would hardly penetrate deeply.

To Dr. Voltolini is due the credit of having given a clear and detailed description of this affection which has been translated by Dr. C. J. Blake, of Boston, who also added a case, the first one in the United States. It is not noticed by Dr. A. H. Buck in his paper on diseases of the mastoid process in the Archives of Ophthalmology and Otology Vol. III, No. 1, p. 179, for in this

9. Report of the First Congress of the International Otological Society. D. Appleton & Co., New York, 1877, p. 80.

he states that "the inflammation of the external periosteum of the mastoid process occurs as a concomitant symptom or phase of an acute inflammation of the external auditory canal," nor is it mentioned in the still more recent works on otology.

Since the discharge of patient Case X, we have received information that he exposed himself for two days to the rain and had a slight return of the swelling and pain, but the otorrhœal discharge has gradually improved. The physician who has charge of the case was directed to open the swelling and keep it open with a tent saturated with olive oil and carbolic acid, also to wash out the opening with a solution of carbolic acid and water, and to change the form of his tonic from time to time, as the conditions arising might indicate.

APPENDIX.

Within the last week we have had a most interesting case under our care, sent us by Dr. Schott, of this city. The brief history is as follows:

A family of three children, one girl and two boys, were attacked with malignant scarlet fever. After some weeks the girl died, and the other two children were so low as not to be expected to recover, and in the case of the youngest, a boy of four years, had a persistent tonsilitis, with swelling of the neck up to the ears, and involving the ear and extending to the Eustachian tube and mastoid cells. The elder boy had otitis media purulenta chronica, with perforation of both membrana tympana. After careful treatment for many weeks the boys were sent to me. The elder boy, after a month's treatment of the ears, recovered, and is now able to be at school. The boy of four had otitis media purulenta chronica, with five fistulous openings over the mastoid process, two on the left and three on the right. When these openings were examinad with a probe, they were found to contain sequestra. The piece of bone on the left was found to be movable and was extracted January 11th, and very soon one of the openings healed up while we used a simple carbolic acid lotion. The other remained open and the discharge diminished, yet there was found on examination a portion of roughened bone which was scraped by the sharp steel spoon and capsici sulph. in powder, applied. The largest opening on the right side was filled up with a wax sponge tent to dilate the opening, and on January 31 the bridge of tissue was divided and the granulations

trimmed away. By means of a strong bone forceps a large sequestration was removed while the little fellow was under the influence of hydrobromic ether. He is now doing well.

In this connection we would most highly recommend this new anæsthetic to the surgical profession, and indeed to all who operate. We introduced the hydrobromic ether in this country in the summer of 1877 [10] and have employed it in over one hundred cases which were reported at the International Congress at Amsterdam, in 1879. We also brought it before the Section of Otology at the meeting of the British Medical Association, at Cork. In June, 1879, we administered it in the public clinic before a class of two hundred students, at Jefferson College Hospital, and Dr. Samuel W. Gross removed a cyst in front of the hyoid bone in a young girl, Dr. Levis having charge of the pulse, which he found but little affected. It has been employed now in all classes of operations, and its advantages are as follows:

First. It is perfectly safe as an anæsthetic, and free from many of the objections to chloroform or ether.

Second. It is almost as rapid in its anæsthetic effects as chloroform and is more rapidly eliminated by the lungs.

Third. It is more agreeable in its odor than ordinary ether, is not inflammable, and therefore can be employed at night in using the actual cautery, or in a private office or a lady's chamber without being offensive or dangerous.

Fourth. The cost is now about thirty-five cents per ounce, yet it requires only two drams to produce its anæsthetic influence, and two more to keep it up.

Fifth. Vomiting is very rare, unless the stomach has been recently filled with solid food.

Sixth. The pulse is increased in force and volume, respiration not much over the normal, and the pupil at times slightly dilated, with free action on the skin.

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10. See The Advantages and Accidents of Artificial Anæsthetics, first edition; also 2d edition, pp. 67, 80, 294, with a full account of its properties and the best method of preparing it, etc.

Translations.

FROM THE ITALIAN.

DR. A. H. OHMANN-DUMESNIL, Translator. [For the JOURNAL.]

ALBUMINURIA IN BRIGHT'S DISEASE.—Prof. Semmola, of Naples, read a note on Bright's disease before the International Congress at Amsterdam. In this note he gave the following, connected with albuminuria:

Dyscrasic albuminuria. Chemical conditions of the blood.	By the presence in the blood of an excess of albuminoids derived from food.	Normal kidney (physiological experiment easily made).	Individual maximum of urea, sulphates and phosphates in the urine.
	By an excess of albuminoids in the blood, that is due to a fault in the combustion.	Irritative hyperæmia—more or less intense, according to the organ or apparatus whose function has been disturbed (cutaneous surface, lung disease, etc.)	Progressive diminution of urea in the urine without accumulation in the blood; defect in production.
	By an alteration in the chemical constitution of the circulating albuminoids, which renders them unassimilable, very diffusable, etc.; (cachexias).	Fatty degeneration. Amyloid degeneration.	The same as above in regard to the gravity of the cause which produces the cachexia

Mechanical albuminuria. Degree of pressure of the blood current.	Different neuropathies having direct or remote influences on the vaso-motor system.	Renal stasis more or less temporary.	Urea almost normal and within the limits of physioiogicai oscillations.
	Pregnancy and in general all pressure exercised on the vena cava inferior or on the renal veins, etc.	The same as above, but frequently the stasis becomes permanent on account of general conditions of the body or by organic causes which produce the pressure.	Urea according to the pregnancy or to the organic causes producing the compression.
	Heart diseases which have arrived at their non-compensating period—that is to say, to the inversion of the arterial and venous tensions.	Persistent stasis. Cyanosed kidney. Cardiac kidney.	Diminished urea according to the heart disease.

Irritative albuminuria. Histological change in the kidneys.	All irritative processes of the kidneys in their different stages up to complete nephritis. The albuminous filtration is more or less considerable in proportion to the part played and to the influence of the inflamed elements in the mechanism of urinary filtration.	All the anatomical consequences of inflammation, from the simple turbid state and degeneration of the various epitheliums to sclerosis and atrophy of the kidney, according to the special histological seat of the inflammatory process and of the special cause which has produced it.	Normal urea or augmented insensibly, according to the fever (acute stage).
			Diminished urea without accumulation in the blood, according to general troubles in combustion.
			Diminished urea and accumulation in the blood as a consequence of faulty filtration.

—[*Giornale Internazionale della Scienze Mediche.*

FROM THE FRENCH.

EXCERPTS FROM LATE FRENCH JOURNALS. [Translated for the JOURNAL.] By Dr. A. H. Ohmann-Dumesnil, of St. Louis.

FUNGATING EXCRESCENCES OF THE UMBILICUS IN INFANTS.—At the Anatomical Society, M. Ch. Féré called attention to the fact that these tumors are not very rare but still have not been studied much in certain directions. These little tumors generally show themselves four or five days after the cord has dropped off, and develop rapidly. They assume various forms: cylindrical, pedunculated, sessile, etc. Their volume is generally that of a pea although they occasionally attain the size of a cherry. They have no tendency to cure spontaneously. The cylindrical vegetations may be destroyed by ligating or cutting, and the sessile forms by cauterization. The histological structure is divided: some are granulomas (of Virchow) and the most common; others vascular fungus, rare; and the rest adenomas. The author's examinations showed them to be sarcomatous (with small cells) and a tendency to form connective tissue.—*Progrès Médical*, Dec. 20, 1879.

NEW METHOD FOR THE POST-MORTEM STUDY OF GASTRIC LESIONS:—M. Damoschino detailed, to the Biological Society, a method to preserve the stomach in its true state after death. It is impossible almost to make an autopsy inside of 24 hours after death and during that time the stomach undergoes changes due

to the action of the gastric juice and to the decomposition of food. He thinks that this can be obviated by filling the stomach with 86 per cent alcohol, one or two hours after death. Besides its antiseptic properties the alcohol hardens the tissues and renders them much more advantageous for microscopic investigations. The color of the mucous membrane is reduced a trifle paler. —*Ibid*, Dec. 27, 1879.

TRAUMATIC ATROPHY OF THE PAPILLA OF THE OPTIC NERVE.—M. Galezowski recognizes three varieties: 1st. Where it is the result of meningo-cephalitis and is only observed when the membranes of the brain had been wounded. It is characterized by greyish circumpapillar exudates which are ineffaceable. 2d. The result of a direct wound of the optic nerve, in its orbital part, by means of thrusts from weapons or by fractures into the optic foramen. 3d. Loss of sight is immediate in one eye in certain fractures of the skull and the atrophy of the optic nerves becomes progressive as in locomotor ataxy. These are very interesting phases whose pathology is not as yet very clear.—*Gazette des Hôpitaux*, Dec. 18, 1879.

PATHOLOGY AND TREATMENT OF RABIES.—Dr. Brochin, in a review of a work by Dr. Dubonć, gives the following as the author's conclusions:

The morbific agent progresses slowly in a centripetal direction, from the site of the wound to the spinal center and backwards very rapidly in a centrifugal direction.

The effects of rabies commence as soon as the virus attains the spinal center and are recognized by the radiating pains.

The period of incubation is, in general, proportioned to the distance the virus must travel. Whence it follows that it is shorter in children than in adults, in wounds of the face, etc.

The morbid phenomena which characterize the period of invasion are directed to the general and sensorial sensibility, which at first becomes more acute but finally disappears and paralysis results.

The lesions of rabies are of two kinds: those which are proximate, visible only with the aid of the microscope, and consisting in an increased opacity of the nerve cells, together with a granular state of a number of afferent and efferent fibers; the other lesions visible to the naked eye, are marked congestion of various organs and viscera.

Rabies belongs to a grand class of morbid affections of a peripheric origin, like certain eruptive fevers and neuroses.

The transmission of the virus along the course of nerves furnishes the following therapeutic indications: 1st, to destroy the virus *in situ*; 2d, to prevent its passage to the spinal cord, in case it cannot be destroyed; 3d, to dull the sensibility of the spinal center during the whole period of incubation, in case the means given above are not feasible; 4th, to constantly act on the centers of the cords by intra-venous injections, to combat the ordinarily rapid progress of asphyxia.

The reviewer states that the unilateral character of rabies is not an observed fact and that experiments (of which a *resumé* was given in a former number of the JOURNAL) have been made with rabbits which tends to prove it bilateral,—*Ibid*, Dec. 23, 1879.

ESERINE.—Dr. A. Dehenne says that eserine has certain indications for its use and that it is a mistake to employ it as a substitute for atropine, in all cases. Not only this, but it frequently becomes a source of danger. It is not necessary to mention the antiglaucomatous properties of eserine; but besides this its use ought to be limited to abscess and simple ulceration of the cornea, with a limited use in inflammatory or traumatic perforations accompanied by herniairids, hypopia, etc. He relates the cases of a number of patients, whom he treated for iritis with synechia caused by eserine, and which promptly yielded to the use of atropine.—*France Médicale*, Dec. 27, 1879.

Proceedings of Medical Societies.

TRI-STATE MEDICAL SOCIETY.

[Reported for the JOURNAL.]

FIFTH ANUNAL SESSION HELD AT EVANSVILLE, IND., NOV. 4TH, 5TH, AND 6TH, 1879.

DISCUSSION OF DRS. MUMFORD AND HIBBERD'S PAPERS.

DR. J. M. HOLLOWAY, Louisville, Ky.— I desire to express my great pleasure at hearing these papers, and move their reference to the proper committee. This motion was seconded and carried.

DR. T. M. STEVENS, Indianapolis, Ind.—These are valuable papers. They recall several facts. In the first paper it was truly stated that a great many cases are taken for consumption or tuberculosis that are not such. As far as Dr. Hibberd's paper is concerned, it amounted to about this, viz: That consumption cannot be cured by drugs. Civilization is a failure in many points. If it would build up the physical health of men it would be no failure, but civilization does not build up physical health; nor do drugs. Barbarous nations are far healthier than we are.

DR. F. M. BEARD, Vincennes, Ind.—Some gentlemen who were present at Springfield, Ill., last year will recall Dr. Hibberd's remarks on the use of quinine, and of his having criticized the speakers on that occasion pretty freely. I am happy to see that Dr. Hibberd had been converted. He has found another disease that quinine cures, viz., consumption.

DR. J. M. HOLLOWAY—It seems to me these papers will have a wide influence on the profession. Coming from men of experience, they will teach younger men not to rely so much upon the use of drugs in the treatment of this most intractable disease, which we call consumption. The papers are suggestive of that point.

I would have been glad if Dr. Hibberd and Dr. Mumford had alluded to another important point which is not controlled by the profession, but might be influenced by them very greatly; that is the hygienic management of those we call consumptives;

trying to exert all the influence possible in the direction of the prevention of the disease, particularly in the line of hereditary transmission. I know it is a delicate subject, and often where the professional attendant interferes he injures himself. Sometimes the healthy one of the pair so impresses the germ that, together with proper hygienic surroundings, disease in the offspring is prevented, but we are far from certain that even a healthy individual can have healthy offspring by a consumptive or even one who is in the line of hereditary consumption. I am gratified at another point these papers suggest, namely, the tendency to go around in a circle and come back to the old point, at least a point reached by some of our profession long ago. The profession is not altogether responsible for this drifting tendency, while so great a power as the press is constantly forcing on the people remedies for the profession to use.

Excellent doctors are swayed and captured, not only by publications but by commercial travellers who distribute the publications, calling attention to the value of special remedies in the management of this disease, and setting forth the plausible idea that they are remedies to build up the system.

I did not intend to drift into these remarks. I rise mainly to put on record a fact which will be interesting to the younger members of the profession, and which is familiar to the older members living in and around Evansville.

Many years ago—about the year 1837—a very interesting work was published Louisville, by a doctor who lived in Louisville, on the curability of consumption. This author adopted the pathology of the disease which was considered the best at the time; he was too modest to discuss the subject of the pathological changes in the lungs on the limited knowledge he had. He (then living in Virginia) and his room-mate were obliged to differ with an eminent doctor, with whom they were studying medicine, as regards the use of depletion, antimony and diuretics that were used by the profession at the time as pleasant (?) remedies to cure this terrible disease. These room-mates parted, one for Tennessee, one for Kentucky. Before leaving they agreed, that as they themselves were subjects of phthisis, they would strive to adopt a directly opposite treatment to that suggested by their distinguished tutor, upon their own persons, and if they found the treatment beneficial, they would use it on their patients. The writer of this book in his

preface, says that his friend and class-mate did an active practice on horseback in that lovely country. He accomplished a cure in his case by producing what he termed the antipodes of consumption—that was gout. In fifteen or sixteen years he died of gout, while the other, who had lived on frog legs and eschewed medicine, but still being careless about himself, and being too much of a student, spending too little time in the open air, had not improved so much as to die of gout, or produce gout. He felt he had improved his condition by the treatment, now spoken of so frequently, as the "building up treatment" and the avoidance of specific medication. He lived to quite a considerable old age. After he had written this book, I had the pleasure of knowing him and catching frogs for him. While I lived in Louisville this thoughtful and honest man was hounded out of the city of Louisville. He was doing a successful practice, but so great was the opposition to his building up method of curing consumption, that the tutors of the great University of Louisville and their followers hounded him from his home, by bringing him into such derision that he was eventually deprived of practice and compelled to leave Louisville. He found an asylum just below the creek not far from this house, here in Evansville. This man wrote his convictions, which have proven to be true, but truly did he suffer for it. He reared children and finally he died at a ripe old age. Perhaps he died of consumption; I do not know. The elder members of the profession may have seen this book. I, perhaps, possess to day the only copy in the state of Kentucky.

I allude to the work of Dr. William A. McDowell, a cousin of the distinguished Dr. Ephraim McDowell, and quite a near relative of Dr. J. N. McDowell, the great and eccentric surgeon of St. Louis. I rise as I said, to have it placed on record that these men—Drs. Mumford and Hibberd—have come to the same conclusion that Dr. McDowell did in the year 1837.

DR. G. F. SENTER, Evansville, Ind.—Dr. Payne, of Illinois, had been afflicted with consumption; he went to Darwin, Ill.; he relied on quinine and whisky, and died at an old age. At his death he had but a part of one lung and he died from another disease. In regard to the treatment suggested by the papers I think that it is proper; I like the effects of opium; I give a dose of it at night if necessary. Another remedy I often give, is

quinine; it stops the fever, and stops the tendency to so-called galloping consumption. It should be remembered that fever is produced, in these cases, by disintegration of the tissue, and this is intensified where we have local irritation and congestion. The quinine has the effect of re-establishing the circulation of these local congestions as well as of the general system. The other treatment suggested I think is eminently proper; milk I used in place of cod liver oil. I let the patient drink it *ad libitum*. The rule I follow is, never to let a consumptive patient go to bed hungry.

Dr. WILLIAMS, Cincinnati, O.—I am reminded of my experience when I was a medical student. I went to hear Velpeau. He brought before his students a man who had erysipelas. He says: "One of the first things you have to learn, is to respect the authorities in the curability of disease. I will enumerate a number of well anthenticated remedies for erysipelas." He went over all of them, and when he was through, he asked his students what they thought of the curability of erysipelas. They replied that he should answer for them. He said that erysipelas was a self-limiting disease, and that there were too many remedies for it and none were of specific value. It was one of those diseases that need to be managed throughout its course, and conducted safely to its end.

The drift of this discussion seems to bring out, in my opinion, that treatment of consumption is not derived from direct experience but from the observation of others. I can perhaps illustrate it best by a story of one of our old Cincinnati physicians. He was fond of technical and stilted languages. A Spanish family came to the city; one of its members was taken sick. They understood a little English and called this doctor. He gave them a prescription for pills and he wrote the direction: "One pill to be taken three times a day in any convenient vehicle." The family looked in the dictionary to get at the meaning of the prescription. They got on well until they got to the word vehicle. They found "cart, wagon, carriage, buggy, wheelbarrow." They saw anything but the technical meaning of the word they were looking for. After grave consideration they came to the conclusion that the doctor meant he should ride out, and while in the vehicle he should take the pill. I think that consumption is oftener cured by riding out than by any kind of medicine.

EPIDEMIC SCARLET FEVER WITH REMARKS ON ITS HISTORY, DEFINITION, ORIGIN, PREVENTION, AND TREATMENT. By J. W. COMPTON, M. D., of Evansville, Ind.

The epidemic of scarlet fever which prevailed in the city of Evansville and vicinity from January, 1879, to November of the same year, was characterized more for its long continuance and its invasion of every portion of the city and adjacent country, than for its malignancy or mortality. Its approach was so insidious and so gradual that it had almost reached its climax before attracting much attention from the profession or the citizens.

In the month of January there were 15 cases; in Feb. 6; March, 6; April, 65; May, 349; June, 75; July, 41; Aug., 49; Sept., 20; October, 22; total; 638. The respective ages at which persons were attacked have been summed up as follows: under one year, 50; from one to three years, 120; from three to 6 years, 159; from six to ten years, 152; from ten to twenty, 113; from twenty to thirty, 16; from thirty to forty, 20; from forty to fifty, 5; from fifty to sixty, 2; and from sixty to seventy, 1; total, 638. The deaths from scarlet fever during January were 3; Feb., 1,; March, 1; April, 15; May, 65; June, 27; July, 9; Aug., 7; Sept., 6; Oct., 3; total, 137. Showing a death rate of a fraction less than 1 in 5, a mortality approaching even that of the much dreaded yellow fever.

Prof. Chandler, of the New York Board of Health, is credited with saying that "the scarlet fever caused more deaths in New York last year than the yellow fever did in the South and yet failed to excite public apprehension or make people ordinarily careful to prevent infection." The citizens here in many instances continued to visit families infected with scarlet fever, permitted their children to visit and to remain in the room with the sick, and even brought their children from considerable distances in the country so that they contracted the disease and spread it through their neighborhood. In the south-west part of the city in Union township, five children died in one neighborhood eight and ten miles from the city and the contagion was traced to contact with the sick in this city. So strongly was I impressed with the dangerously infectious and contagious character of the disease, and

being urged to the task by the peculiarly strange and characteristic action of one of my patrons, that I wrote the following communication, which was published on the 13th of March, '79, in the daily *Courier* of this city, hoping that it might prove a warning and result in benefit to some persons at least. This letter received the following head lines from the editor: "Scarlet fever. Timely advice to mothers, and how they may prevent the spreading of this insidious disease." And reads: "In view of the epidemic and contagious character of scarlet fever, desolating so many fair homes by the merciless slaughter, many times, of all the innocent children of the household, creating in once happy families painful vacancies only to be filled by the bleeding memories and blasted hopes of fond but stricken parents, is it not strange that the physician should be so frequently asked, Is scarlet fever contagious? and when answered yes, exceedingly so, and another question follows when one child has been stricken by the disease, is there any way to prevent the other children from taking it? when answered, yes, separate them constantly from the sick one, is it not doubly strange that except in very few instances the advice of the physician is practically disregarded? Nevertheless, strange as it may appear, in many instances, it may be from a multiplicity of cares or from want of full confidence in the contagiousness of the disease, the wholesome council of the physician is only followed by efforts spasmodic at first and wholly abandoned in a day or two."

One representative case will serve to illustrate very many of a similar character: The oldest of a family of children nurses the sick child of a visitor who has just come from an infected district. The sick child has a fever and sore throat. The parents become alarmed about it and take it home. In a few days the one who nursed upon its lap a pestilential disease unawares, is attacked with fever and sore throat; the mother wraps up the throat and uses some domestic gargle, but in spite of her care the fever increases in intensity, swallowing becomes difficult, and after a day or two the Doctor is sent for. He discovers intense redness of the throat, a bright eruption on the skin, fever of high grade and rapid pulse, and in response to the anxious inquiries of the mother as to what the disease is, is compelled to answer, "your child has scarlet fever, madam." The mother freely sheds tears of anxiety and alarm, saying what shall I do? Here are the smaller children, some of them delicate. Is there any way to

keep them from having the disease? Yes, keep the other children out of and away from the room of the sick one; they will very likely not have it. The mother quickly cries out, "Here, Susan Jane, take these children to another part of the house and do not let them come near this room again." The doctor sees the children hurried out of the room and so far the prospect of confining the disease to the single case seems excellent. On his visit to his patient the succeeding day, the children observe him as he goes to the sick chamber; curiosity takes possession of them and they follow. The patient is examined and appears to be doing well, but hearing the door open and looking around discovers the children so hurriedly sent away the day before, standing directly in the doorway, inhaling the poisonous air as it rushes out through the open door to give place to the pure air that enters. The mother, intent on telling how much medicine and what kind of nourishment the sick one has taken, sees her precious darlings standing in the most dangerous position possible, and mildly says, without moving from her seat or manifesting any of the alarm of the previous day, "Sadie, dear, go away; Benny, son, go along and shut the door." But Sadie and Benny do not move and so they remain until their inclinations attract them in some other direction. On his visit the following day, the doctor finds all of the smaller children comfortably seated in the sick chamber busily engaged with their playthings, looking very much as if they had come to stay all day. The precautions of the family to limit the disease to one case, accidentally, I might say unavoidably exposed, have had their fitful existence and the universal laws governing disease germs will have received no infringement when four or five little coffins with their precious contents have been carefully removed and the loved ones with their parents' blighted hopes find a quiet resting place in the cemetery.

This is not the time to enter into an examination as to whether scarlet fever is a contagious or infectious disease, or the period during the course of the disease when it is more intensely one or the other, but to impress in plain language the necessity of and the means by which the disease may be limited to a single member of the household provided parents and citizens generally will, in good faith, aid the physician in his efforts by faithfully and persistently following his instructions. In doing this they must abandon all preconceived opinions that the dis-

ease is not contagious, or if so at all, only contagious during the fever or at certain other stages which mark the course of the malady. If the people can only be educated to know the contagious character of scarlet fever at all stages as the physician knows it, there would not be so much trouble in securing their coöperation in efforts to prevent the spread of the disease as soon as discovered.

A case reported by Dr. J. R. Black, of Ohio, will fully illustrate the necessity of thus educating the people, so that they may the more intelligently aid the profession in arresting the spread of the disease: "In the spring of 1876, while scarlet fever was prevailing as an epidemic, I was called to see the eldest child of Mr. F. He had three other children, all of whom were delicate and prone to attacks of angina. The entire surface of the boy, who was eight years old, had the characteristic exanthem with high fever, sore throat and rapid pulse. The parents were intensely alarmed as with three younger and more delicate children they might well be, at the thought that all of them must now suffer by the dreadful malady. 'Is there any way of preventing the other children having the disease, was the earnest inquiry. 'Certainly,' was my reply, 'If you will faithfully follow my directions.' 'That we will do; but Doctor, the other children have all been with the sick one while the fever was on him, and some doctors say that it is more catching then than at any other time.' 'Never mind what others say. Some think it is not contagious, not infectious, just as some think to this day that the world does not turn around.' Mr. F. had a large two-story house; the limitation of the disease appeared perfectly feasible. The chamber selected for the sick boy was up stairs, and in a room apart, as much as practicable, from the others, with an open fire-place, which, with the windows dropped from the top, afforded ample means for ventilation. The transom was closed and the door ordered not to be opened except for entrance and exit for the nurse. To her was given the following directions: to wear in the sick room a loose gown which must be thrown off before leaving the sick room, and if the patient had been handled to wash the hands in water into which a little carbolic acid had been dropped; not a handkerchief, napkin or piece of bed linen must be taken out of the room dry but must be plunged into water. During cutaneous exfoliation the scurf must be carefully collected from the sheets (which in this instance amounted to a

teaspoonful) and thrown into the fire; especial care must be taken that none falls upon the carpet. The isolation of the patient must be continued for at least ten days after desquamation has been completed, and the week prior to leaving the room, carbolic acid baths must be given once daily. This should be of tepid water, into which an ounce of the solution must be mixed. Every inch of the surface must be carefully disinfected, especially around the hair of the head. Many precautions have been rendered wholly nugatory by neglect of this point. The patient, it is said, has been carefully disinfected and yet the disease has spread. The mystery would be explained by an increase of vesual power. The minute scales abounding in infection, linger in the head longer than any where on the person. A boy has been well of the fever say for a month. He goes upon the street, into the school room, sitting or standing with two or three others around him. He scratches his head, and it is only needful to place him where a few sunbeams are allowed to fall upon his head to be aware that a little cloud of infectious particles is diffused around him. Some of it is inhaled by his companions; it adheres to their throats, to the bronchia and bronchioles and so enters the blood. Mysteriously these companions are taken down with scarlet fever and yet parents are most confident that their children have not been any where near the infection. The patient's time of seclusion having elapsed and all the infected clothing as carefully disinfected as his person, he may then mix in safety with his fellows. Attention should then be turned to the bed-room and its furniture. No child should be allowed to enter the apartment until it is thoroughly disinfected. This may be done by closing the room tightly, windows, flue and doors, and then burning sulphur in it until the fumes prevade every part, allowing it to be thus tightly closed and fumigated for several hours. After this all windows should be thrown as wide open as possible, day and night for a week. The room will then, after cleaning in the ordinary way, be ready for occupancy. I believe the stamping out of scarlet fever and diphtheria in any particular locality to be practicable, if the populace were only educated up to its entire feasibility, and to render intelligent co-operation."

DEFINITION AND PATHOLOGY.—Aitken defines scarlet fever as "A febrile disease, the product of specific poison, which is reproduced during the progress of the affection. On the second

day of the illness, or sometimes later, a scarlet efflorescence generally appears on the fauces and pharynx, and on the face and neck, which spreads over the whole body and commonly terminates in desquamation from the fifth to the seventh day. The fever is accompanied with an affection of the kidneys, often with severe disease of the throat, or of some internal organ, and is sometimes followed by dropsy. The disease runs a definite course, and as a rule occurs only once in life." I am not inclined to take issue with this definition. Nor with his pathology, which says that "After a definite period of latency, the peculiar poison of scarlet fever induces a disorder of the blood, which is in the first instance made manifest by a febrile state and a disturbed condition of the great nervous centers." "That fever precedes the distinct actions of the skin in this disease is so general a rule that it has few exceptions; and the pyrexia has been occasionally so severe as to destroy the patients before the more specific lesions of the disease have been set up." As regards the disordered condition of the blood in scarlet fever, numerous and frequent experiments have settled the question beyond the reasonable possibility of a doubt.

Coze and Feltz experimented upon sixty-six rabbits, by introducing the scarlatinous blood under the skin. Of these sixty-six rabbits, sixty-two died between eighteen hours and fourteen days, having had high temperatures with diarrhœa and emaciation. An examination of the blood after death revealed the presence of bacteria and bacteridia the same as was found in the blood of the scarlatinous patients themselves. Under the magnifying power of five-hundred diameters, Ries examined the blood of a patient dying with scarlet fever, and found an infinite number of small dark bodies in the serum between the groups of blood corpuscles. He injected a few drops under the skin of the back of a rabbit and the animal died in twenty-four hours. Upon examination of the blood it was found to be similar to that previously injected. These and other experiments prove clearly that the poisonous principle enters the blood at the time of the inception of the disease and further that this poisonous principle must be dependent upon the disease germs, the very bacteria or micrococi found in the blood. These organisms being capable of reproducing themselves during the progress of the disease, we may readily account for the contagiousness of the disease, for the exhalations from the skin, the lungs and the secretions generally

which are all organs of elimination and eliminator of the blood and the blood contains the contagious principle upon which the infection is dependent.

A striking illustration of the contagious character of scarlet fever is afforded us in the experiments of inoculation, and it is further proven that the disease is developed in the inoculated form with quite as much intensity as it existed in the person from whom the matter was taken. This experiment was performed by Williams and seeing the result it was never afterward repeated. The usual mode of the introduction into the system of scarlatinous infection is through absorption by the mucous membranes, of the poison, generated by a patient suffering with the disease. This absorption may take place by a healthy person breathing an atmosphere contaminated by the exhalation from the sick or it may be directly by receiving upon the mucous membranes the flying particles of exfoliated dust, from carpets or infected clothing.

ORIGIN—Referring to the origin of scarlet fever, I assume that there can be no case of this disease without the presence of the seed germ; as soon may we expect that there can be a stalk of wheat without there having been a grain of wheat to originate it. We admit no other origin and we know that the grain of wheat from which the wheat stalk is growing, came from a parent grain of wheat. The same principle applies to this specific disease. Prof. Tyndall has proved the doctrine of spontaneous generation to be without foundation and has shown clearly that no life exists without antecedent life. I am aware that Oertel, in discussing infectious diseases, says that "A spontaneous outbreak of the disease may frequently be observed, especially in cities where it has already appeared epidemically, and it is then to be explained only by the theory that the disease has been produced by some miasm, some noxious agent, at certain times widespread, but the nature of which is yet unknown." If the disease has been epidemic in a city or other place it is a reasonable assumption that the germs, the seeds of the disease, have survived in some way all the elements of destruction, and finding a proper lodgment or proper soil have been warmed and nurtured into life, and it is no more a spontaneous outbreak than it would be for a stalk of wheat to be found in some out of the way place. The seed was there, no difference how it got there, and reproduced its kind.

Liebermeister says, in reference to the infectious diseases, that "through the long series of generations, diseases preserve their specific character with the utmost pertinacity; and if at times some of these characteristics are not brought into complete maturity, owing to an unfavorable field for their development, yet they assume them again so soon as they are planted in a favorable soil. In fine it may be said that no external influence ever decides the nature of the affection, and one infectious disease is never under such conditions, changed into another." The reason of this I will state is the fact that they each have only one specific cause. In support of this doctrine of the unity of the origin of scarlet fever. Prof. Jos. G. Richardson says: "This brings me to a notice of one of the most mischevious popular errors which a general acceptance of the germ theory would necessarily subvert, namely, the belief that small-pox and other contagious maladies often arise without previous exposure to the seeds of the disease. This doctrine is frequently advanced in private life as an excuse for neglect of proper care and caution in regard to children, etc., and occasionally sustained by public authorities as an apology for violation of quarantine and other sanitary regulations, and our utmost gratitude would be due to the germ theory of disease, even should its establishment render no other service to humanity than the explosion of this fallacy." He further remarks that, "putting aside the primary origin of disease, which, with one or two exceptions is a question of prehistoric times, the germ theory teaches us that every new case of the contagious maladies, already enumerated, is the immediate offsprings of a preceding case, and the direct exposure of an unprotected human being to the chance of having the spores or seeds of disease implanted in his system." The germs of purely miasmatic diseases should not be confounded with those germs producing diseases which are purely contagious; indeed, a very marked distinction, and the strong line of demarkation which their dissimilarlity entitles them to, should be drawn between them. Liebermeister, in speaking of this distinction, uses the following language: "It is usual now to speak of contagium as a specific excitant of disease which originates in organisms suffering from the specific diseases; while miasm, on the other hand, is used as a specific excitant of a disease, which propagates itself outside of and disconnected from a previously diseased organism. Contagion can be conveyed by contact from a diseased person

to a sound one, producing the same disease in him, and then reproducing itself. Miasm originates from without; taken up into the body it can call a specfic disease into action, but it cannot spread the disease any further by conveying it from a diseased to a sound person. There are diseases which are purely contagious and diseases which are purely miasmatic. Measles, scarlet fever, variola, vaccina, typhus, diphtheria, malignant pustule, rabies, virulent ulcers, blenorrhœas, syphilis, pyæmia and puerperal fever are purely contagious. In all of these diseases the poison can be conveyed from one individual to another by contact." The malarial diseases are purely miasmatic and are not conveyed from one individual to another.

PREVENTION—In addition to what has already been said in regard to isolation and disinfection as safeguards against the spread of this disease, I will quote from Aitken's Science and Practice of Medicine, vol. 1, page 320:

"This disease being established, the patient generates a poison which may be communicated directly, or which may contaminate the atmosphere. The disease is so eminently communicable, that no susceptible person can remain in the same room, and hardly in the same house, without contracting it. The infecting distance is consequently much greater than in typhus. Indeed, it is necessary to break up every academic establishment in which scarlatina prevails; for it is hardly possible to isolate children in the same house or school, however large, so as to prevent the disease from spreading."

No such precautions were taken by our authorities during the progress of the epidemics of 1879. Our public and other schools containing nine thousand children of the city and vicinity, and which I believe excited greater influence than any other one cause in disseminating the widespread prevalence of this epidemic, continued to hold their daily sessions regardless of the number of interested parents who desired them closed, but who feared to take their children out of school because their absence would reduce their per centage in examinations and their prospects for promotion. One member of the school board and the superintendent of the public schools took their children out of school, and a number of school patrons did the same, until, by the number thus taken out and those out by reason of their having the fever, the schools were so much reduced in attendance that they

were compelled to close before the completion of the school year.

In regard to the treatment, I discovered perhaps the greatest unanimity among the profession here in the practice of freely oiling the entire surface with some bland oil to allay the itching so constant and an accompaniment of the eruptive stage of scarlet fever. There is also much unanimity in the effort to eliminate the poison from the system through the emunctories, the skin and kidneys. For the accomplishment of this purpose various diuretics and diaphoretics have been prescribed. One that appeared to have given general satisfaction to those who gave it a trial, was jaborandi. It produced copious diaphoresis with reduction of febrile symptoms, heat of skin and temperature. Some used sponging the surface with cold water to reduce the heat of skin and temperature and speak well of the results. In my own practice I can strongly recommend two remedies that I relied upon and from which entire satisfaction was received. Quinine, as an antipyretic, exhibited the most satisfactory results, producing copious diaphoresis and reducing more permanently the fever heat of skin and temperature, ameliorating all the symptoms of high fever, depression of the nerve centers and delirium. Its well known properties of being destructive to low forms of organisms to be found in the fermentative stage of malarial fevers and complications of this condition with scarlet fever, and there is every reason to believe that it also acts as an agent destructive to the germs of scarlet fever. To a child four years old with intense high grade of fever, delirium and stupor bordering at times on coma, I gave twenty grains of quinine in twelve hours, unmistakably reducing the temperature, inducing copious sweating and restoring the child to comfort and rationality to the extent that it eagerly sought its playthings which were placed on the bed. Twenty grains were repeated each day for three successive days, when the fever was quite subdued and a good recovery was made. As an eliminator of scarlet fever poison it is entitled to be placed at the head of the list.

The other remedy which gave me universal satisfaction was the muriated tincture of iron in solution of chlorate of potassa. In addition to the other medical properties which I shall mention hereafter this combination supercedes the disagreeable and annoying mopping of the throat, which so much excites children and against which they often struggle until greatly irritated and

exhausted. Where it can be used as a gargle I have the throat cleaned out by the remedy and after this the patient is directed to swallow a suitable portion. This plan of treatment, which is based upon the conviction that the fever is a distinct form of blood poison, caused by living organisms, capable of multiplication in the human system, has yielded excellent results; and in it is contained one great hope of the future in controlling this incorrigible disease. That there is in this fever a condition of toxæmia in which poisoned blood depraves the nervous and circulating systems as to produce that train of symptoms so characteristic of this fever, scarcely admits of a doubt. It then follows that the remedy best calculated in its known action, in destroying low forms of organisms, should be employed to neutralize and destroy the germs which produce the fever. This remedy contains chlorine in acid combination, prevents the tendency to putridity in the contents of the stomach, and by entering the blood by absorption comes in contact with the poison in that fluid, and by its well-known antiseptic properties acts as an antidote in the blood, destroying the poison it overtakes in that fluid.

ST. LOUIS MEDICAL SOCIETY.

Valedictory Address. Delivered January 10, 1880, by Charles W. Stevens, M. D., President of the Society for the year 1879.

[Reported for the JOURNAL.]

Among the number now constituting the roll of membership of this Society, or forming the body known as the medical profession of this city, but few are here to-night; in fact, but few are now living, who can in memory call up the forms, the features, the moral, intellectual or social qualities of our predecessors in the profession of thirty or forty years ago; but few are able to detail or recount the events, professional or otherwise, in which they were actors. Thirty years is regarded by statisticians as a generation of man; this is the average of human life. What, then, would be the average of our professional life, which begins, we will say, as a rule, when we have passed twenty-five years of our allotted time? It would doubtless fall much lower

in the scale, and perhaps we would be justified in saying that the average of the physician's professional life is twenty years. If by favorable surroundings, or by the kindness of our mother nature, a few of us have over-lived our time, it offers no warrant or guaranty to the rising generation that they will be thus favored. This may look somewhat discouraging to the young or the novices now before me, but the consideration or appreciation of this startling truth should demonstrate to them as well as others the necessity of energizing all their powers and faculties. Only twenty years for the long anticipated joys of professional life; only twenty years in which to make a fortune; only twenty years in which to make a name, a reputation; only twenty years to be a benefactor, to make the world the better for my having lived in it. Yes, these are pertinent reflections, and I indulge them with a degree of timidity, but at the same time I know, notwithstanding all that may be said, each one before me will take a hopeful view of his own condition and prospects, and will flatter himself that he will be fortune's favorite. "Hope springs eternal in the human breast."

But just here, while indulging in these rather solemn reflections myself, may I not be mistaken as to the train of thoughts that have arisen in your minds? Perhaps some of you, in cogitating upon my calculation, are saying mentally that these old fellows, these ancient individuals, who have outlived their double ten years, ought to be out of our way; you ought to have stepped down and out long ago. Well, then, if my genealogical proposition has had only this effect, we had better consider another matter; perhaps some rambling thoughts about this Society, or some observations upon men and events. This Society, as I am informed, was organized about forty-five years ago. Coming to St. Louis in 1840, it was my privilege to know and to become acquainted with the men who had founded it. In memory I now picture them, much as they appeared to my youthful eyes. Several of them were, even at that time, old in service, and had been the pioneers in the profession. Beaumont, Sykes, McCabe, Hardage Lane, Wm. Carr Lane, Farrar, Merry, Adreon, Pultae, Tiffin, White, (one survives, and I feel honored that he is now before me—Dr. Meredith Martin, the President), are as vividly before my mind's eye as though I had seen them but yesterday, and I believe any who remember them will bear testimony with me to their worth.

From that time to the present I am confident they have not been surpassed in the elements of character or the qualities that serve to make the true man, the polished gentleman, and the useful and accomplished physician. I have often thought it would be exceedingly interesting and instructive to have at hand a truthful and impartial biography of those men. I cannot, however, let the opportunity pass without a few words in regard to one or two of our associates, though no word of eulogy from me is necessary or called for. The name and fame of Beaumont should be kept in mind by the members of this Society. His reputation was world-wide, and even now the reports of his experiments, observations and conclusions are found in every work on physiology. In 1850, in the City of Paris, I was introduced to the then greatest of living surgeons, Velpeau. Immediately upon learning that I hailed from St. Louis, he said: "Ah! you have there Dr. Beaumont." I well remember the enthusiasm with which he spoke of him and of his discoveries. For many years he was the leading surgeon of our city, and stood high in medical and practical competency. He is now most affectionately remembered by the older families of our town, not alone professionally, but for his amiable and manly social qualities.

It was our fortune also to have as an associate one whose memory should be cherished by all who are capable of appreciating the doctrines, or rather the great fundamental principles of physiology, which he formulated. I allude to Prof. John Waters. The grand idea that in tissue disintegration, retrograde metamorphosis, we have the life force, was first definitely or distinctly elaborated, and given form, and made practical by him. In failing to place upon record the debates upon this question, in which Hammer and Pallen (who have departed) and others now living participated, a great loss to our literature has been sustained. Many of you remember the sharp contests upon this principle, as its application to physiological and pathological processes, which were then discussed, and the clear, methodical, and convincing manner in which Waters presented and demonstrated his theory. He died comparatively a young man. It has been said, "Whom the gods love die young." He was not, however, without faults. A hint is sufficient, and this only as a warning: He was his own and his only enemy. Dr. Workman says, "That to say a man was faultless, would be to libel humanity,

for lifeless are the faultless; but let us, as in the words of the sweet poet, guard thus his memory:

> "When cold in the earth lies the friend thou hast loved,
> Be his faults and his follies forgot by thee then;
> Or if from their slumbers the veil be removed,
> Weep o'er them in silence, and close it again."

I might with propriety remind you of many others full as worthy of mention; many of them have passed away so recently that we almost fancy, at times, we see their forms and hear their voices. Who could desire a more honorable professional ancestry? In the genealogy of families the reputation of an honorable ancestry is ever a matter of pride, and is a stimulus and an incentive to those in whose keeping the good name rests to transmit the boon, unsullied, to those that come after. Just in that light do I look upon our professional lineage, and just so do I regard it as our duty to guard and sustain it as a sacred trust.

How, then, do we stand to-day? My answer will be brief. I think I am justified in the belief that at this time our institution manifests greater vitality than at any former period, notwithstanding the predictions of a few who have become lukewarm in its support. Prophets of evil always abound; such individuals but little know the strength of this stalwart corporation. I have heard this cry again and again, and I believe I understand its import—its echoes soon die away; but we have had civil wars and other perils, and some of them certainly should never be forgotten. I have only time to notice one of them, and nobody will be hurt by a reference to its history. Do any of you remember the Mary Dugan war? It was almost equal to the famed wars of the Roses, though the odors might not be very sweet. Most of you were born too late; it is only your misfortune that you were not permitted to enjoy that superlative farce, in which there was about as much of serio-comic acting as any reasonable man could wish to see in a lifetime. I cannot, on this occasion, give you by any means a full history of the affair.

This Mary Dugan had a tumor in her groin, which was mistaken for a something which it was not. This tumor was cut, and what Mrs. Dugan had eaten for breakfast came out through the opening, and for four years the half-and-half substance, digested and undigested pulp, persisted in flowing from this unnatural or preternatural fissure; thus leaving nearly one-half of her

alimentary tube a useless cavity. At last, alas! poor Mary died. While she lived she was regarded as an object of wonderful interest and attraction, not only by the faculty, but by the community, for the matter took the wings of the wind. Pity and sympathy for her forlorn condition moved the hearts of the charitably disposed, and everything possible was done for her bodily comfort; but the battles among the doctors eclipsed all other considerations. One party maintained, and by speeches and learned essays proved incontestably, that this was an undoubted case of the then almost unknown disease, *typhlo-enteritis*. Another party as stoutly argued that it was only an ordinary case of femoral hernia. For four years the contest raged, and pamphlets with supplements and appendices were scattered about like falling leaves. For four years the air was filled with threats of personal chastisement, and often a rumor of *pistols for two* was proclaimed as part of the programme. It seemed somehow unaccountably strange that men thirsting for each other's blood could not in this long time find the victims they were so eager to slaughter, but so it was.

Mary, in the meantime, manifested an enterprising spirit. It occurred to her, or more likely was whispered in her ear, that she might fill her pockets, just in proportion to the vacuum made in her bowels. She brought suit for $5,000 damages. She went up town and down town, and showed her typhlo to every doctor and to anybody who wished to see it. This was Mary's little lamb, but—

> "Its fleece was *not* as white as snow,
> But everywhere that Mary went, the lamb was sure to go."

(I hope the children will pardon me for making this use of their beautiful poem.) The doctors talked typhlo-enteritis, and so did all the old women. In the legal investigation at least two dozen doctors were on the stand; in fact, but few other witnesses were needed. About one-half were for typhlo, and the others favored the hernia theory; but the jury, in their wisdom, or rather in their confusion, decided against the unfortunate plaintiff; so she failed to fleece the doctors, as she anticipated.

As before stated, Mary died, and wisely willed her body to the party who had befriended her, and quickly did he avail himself of his opportunity. "Eureka!" shouted Dr. W., and "I told you so!" exclaimed forty doctors at once; "femoral her-

nia, and nothing else!" What a victory for one side, and what a crushing defeat for the other! All the actors in this drama have gone down, and their souls, we trust, have gone up; and it is to be hoped that they have long since arranged all matters with Mrs. Dugan, and that she is receiving compensation for all she suffered here.

As a climax to this affair there appeared in one of our dailies a large wood-cut, showing a balloon, surmounted by a woman's head; the basket below contained three well-known doctors, and clinging to the ropes below were four others, trying to prevent the ascension. Beneath the cut was a short poem, headed: "Grand Medical Ascension! The Celebrated Balloon, *Typhlo-Enteritis!*" Far off in the clouds was the temple of fame. Here is the poem:

"Come all ye mystic medicos,
And stand up in a row,
Who, seizing Mary's petticoats,
Aloft to fame would go;
And you ye grudging grumblers, who
Would strive to keep 'em down,
Let go your strings and borrow wings,
To soar to like renown.

"Entire obliterations oft
A second time will show,
And "Inguinal" and "Femoral"
Are different, we know.
Notes, "Supplements," "Appendixes,"
Of course are understood;
The case, still pretty much a case,
The quarrel, clear as mud.

"Now, whether in the "crural arch"
The scalpel in was sent,
Or under Poupart's ligament
With sad effect it went—
Enlighten, Lord, the Faculty,
Who only are in doubt,
Whate'er the case, 'tis they, alas!
Have let their humors out."

Well, so much for this remarkable quarrel. Others equally interesting or farcical, and some almost tragical, could be detailed, but we forbear. In view, then, of the past and the present, I am inclined to predict for our Society a perpetuity, a continued existence, a bright future; that it will not cease to be what it is now,

the center of attraction for those of our profession who appreciate the grand truths of science, or who are inspired by the spirit of progress. It has for a long time been apparent to me, and I do not believe I am mistaken, that those who have availed themselves of the advantages of this Society, are in consequence more useful, more practical, and in every way better qualified for the duties they are required to perform than others. This thought was often expressed by our late colleague, Prof. Linton, and he often denounced in strong terms those, especially young men, who failed to appreciate such advantages.

The benefits derived and conferred by a free interchange of sentiments and experiences are of almost incalculable value and importance, and should be properly estimated by all, and especially those who are ambitious to stand in the front rank of professional service or who desire to be esteemed and respected by the community. The merchant or tradesman who never goes on 'Change, whose associates are only those with whom his pecuniary interest brings him in contact, who day after day and year by year confines his thoughts to buying and selling his goods or his wares, his mind all the time upon percentages, is a very different being from one who associates largely with others of his calling. There is a marked difference in the looks and actions, in the modes of expression, in the address, in the social qualities, in fact the whole bearing of these individuals. The questions and discussions which arise in the assembly serve to sharpen the faculties, to animate and develop all the powers of the mind, to make the man a better citizen and better in all the relations of life.

As a notable example of grand results accomplished by concert of action, I desire to refer to the organization known as the Teachers' Association, connected with the Public Schools of our city. At the suggestion of one of our sagacious Superintendents, the lamented Divol, this society was formed many years ago. It numbers now some six hundred members; attendance and membership are made compulsory; everything relating to principles and practice in the art of teaching is substantially impressed upon the minds of all, and those who by want of capacity or other circumstances, fall short of an established grade of competency are dropped from the lists. To the practical workings of this society we may attribute, in great part, the excellence and efficiency of these schools. A few years since, when

Bancroft, the historian, and one of our most ardent educators, had made a thorough inspection, I heard him remark, "Boston must look out for her laurels."

If, then, in associations such as I have mentioned these advantages are realized, what may we look for in a profession which deals with human health and human life, and whose ministrations reach and compass very many of the interests and principles of social economy? I assume that as a consequence of, or immediately growing out of associated labor, in personal influence, in the contact of mind with mind, in exchange and discussions of views, sentiments and doctrines, there is a power exerted—educational, may we not regard it?—preparing us for our duties and responsibilities, that can come from no other source; and, more than this, there is a cultivation of the kindly and sympathetic qualities of our nature that cannot be too highly estimated. In the presence of each other, generous and honorable impulses flow and overflow and find expression. One may entertain high personal esteem, reverence and regard for those of his grade or class, even without intimate relations or acquaintance, but when these sentiments find actual expression, known to come from the heart, how salutary is the effect. We need always demonstrations of friendship or affection to make us feel their full force.

In considering this subject there is another point that appears to me of great importance. Specialism is now the order of the day, and has produced a remarkable change, or we might say a revolution in the old and long established order of things. A very large proportion of the physicians of our city are now practicing specialties, and the indications are that the time will soon come when the general practitioner will be left behind, a thing of the past, an old fogy. A great danger is that the specialist will neglect general culture and become a man of one idea. If this is true, how manifest is it that in the Society is found the greatest safeguard; it is the only place where the specialist meets under the fairest circumstances and conditions, not only those of his own class, but those engaged in other departments, as well as those who still pursue the beaten track. Here all meet as equals, on common ground, for free inquiry, discussion or criticism, and each and all are incalculably benefited. The acquired knowledge of each becomes common property, and here, too, there is no restraint or embarrassment tending to make us feel ashamed

of an honest difference of opinion or antagonism of practical judgment. The case is widely different where our judgments or sentiments are subjected to the tribunal which a censorious public always exercises, or where our declarations and professions must be made to accord with our financial interests or reputation.

And now, having said so much upon the subject of specialties, may I ask your indulgence in a declaration of my private opinion in reference to this innovation. I do this certainly with a degree of timidity; I am free to confess that I entertain the conviction that this departure from the long tried and established usages is, to say the least, fraught with many dangers. Specialism in medicine is not an unmixed good, and it is not an unmitigated evil. It is a remarkable compound of good and evil. In the main, viewing it in the abstract, it is inherently and intrinsically good; it is made an evil by extrinsic influences; and these are numerous and varied, and are of such a character as to lie almost beyond the reach of corrective measures. Perhaps some may say that whatever is wrong in the system, will cure itself; but do we not know from long observation and experience that reformation is very slow in all cases where the self-interest, the condition, the circumstances of a large and influential class are at stake? I am then constrained to say, taking the whole field into view, that I believe the introduction of specialism into the profession has produced more of harm than good, as far as the welfare or interests of the people are concerned; and in forming this opinion, I have done so after a long and close observation of its *practical working;* and here is, or should be, the grand test in all matters that concern the well-being of the community, whether it be in *medicine*, *religion*, *politics*, *social economy*, or anything else. I believe a sentiment against this order of things is growing, and will ere long manifest its strength. I have indicated one of the sources from which a great danger to the interests of the people comes, and for fear you may think me bold and presumptuous in my expressions concerning the motives that actuate men, I quote the language of one of the clearest minds of the time, Henry Maudsley:

"The practical religion of the day, the real guiding gospel of life, is money getting; the professed religion is Christianity. Now, without asserting that riches are not to be gotten by honest industry, it may be maintained that the eager passion to get rich—honestly, it may be, but if not, still to get rich—is often

inconsistent with the spirit of the gospel professed. The too frequent consequence is, that life becomes a systematic inconsistency, or an organized hypocrisy. With a profession of faith that angels might adopt, there is too often a rule of practice which devils might not disdain."

It is this religion of money getting that overrides and stamps out much of the good that otherwise might result from a well regulated and systematized division of labor. How true is the saying that "The love of money is the root of all evil." Specialism has not yet got its growth, and we have yet to see what fruit it will bear in its maturity. It has grown rapidly, too rapidly, as we think, to make a tree that "shall be for the healing of the nations." The grand oaks are always of slow growth. At the present time a very large proportion of those who are fully committed to specialism are men who have for years had large experience in general practice. But it will not be so much longer. Of the thousands now in our medical colleges, I have no doubt more than one-half are directing all their efforts to preparing themselves for some one of the subdivisions of practice; and why not, when they know that the specialist can get rich in one-half the time and with one quarter of the labor they would otherwise have to perform? Our schools and colleges are overcrowded, and there is, as stated by a sagacious writer, "in this country a plethora of education that is squeezing out the life-blood of the nation." The time was, and that only a few short years ago, when we entirely discountenanced and almost persecuted specialists. Now we not only recognize them, but in every way treat them as physicians, and with honor and affection. This is all right in principle, but should not there be a limit somewhere, and should not that limit be one of education and professional qualification in the broadest and most comprehensive signification of those terms? This is not the time to elaborate these questions, but it is well to look forward and see whither we are drifting.

In my view, no man can be, in the true sense, a physician unless he is trustworthy in the treatment of the whole range of diseases that afflict the human body. Colles wrote his book to establish the doctrine of the constitutional origin of local diseases. Has this doctrine turned a backward somersault, and are constitutional diseases of local origin? It is a consoling reflection that at the present time, and in this Society, our specialists are, with-

out exception, men true to the profession; and I am confident they will join heart and hand in all measures in which truth, science and philanthropy are the guiding principles. Let me be fully and fairly understood. I stand committed to the idea that there is a vast amount of good in the system of specialism as it now exists, but that it is high time that the medical profession, medical societies and medical colleges work in concert, that they may utilize all there is that is valuable, and at the same time counteract all that tends to revolution and anarchy.

I think well of the gentleman you have elected as my successor. I ought to think well of him, for I taught him anatomy, and I believe I did it well and thoroughly, and I desire to share a part of the honor of making him a good and useful man in the profession. But how strangely matters and things turn about! I now sit and listen to him on this floor, and feel as the Apostle did at the feet of Gamaliel. Well, this verifies what Dr. Watts says in one of his hymns. He predicts a good time coming, "when men shall grow wiser than their teachers are, and better know the Lord."

And now, gentlemen, fondly trusting that I have not unduly trespassed on your valuable time, permit me to tender you my grateful thanks for the kindness and consideration you have uniformly manifested towards me during the period in which I have had the honor of presiding over your deliberations.

SATURDAY, JANUARY 24, 1880.

Cancer of the Os Uteri.

DR. E. H. GREGORY — I will report a case that happened today. I was consulted in a case of cancer of the os uteri. There was apparently a distinct belt between the morbid growth and the insertion of the vagina, and it was thought a proper case for extirpation. I succeeded in placing the chain of an ecraseur between the insertion of the vagina and the disease, and removed it. Now somebody here may think I am implicating myself in some bad surgery, but I think these cases had just as well be reported. I succeeded in removing the mass, and I thought very

properly, but on examination I found that about two-thirds of the vagina was separated from the uterus, and I could put my fingers into the abdominal cavity.

Dr. W. Coles (*Sotto voce*)— It is not the first time.

Dr. Gregory — The Doctor says it is not the first time. No, it is the second time. He was present when the same accident happened once before. The point is this: Here is a space into which we can place a chain safely and divide the structures. I am sure the chain was placed in the groove indicated, not above it; simply above or beyond the disease. I don't think it was two lines beyond the disease, and yet this happened. The Doctor says it is not the first time. Perhaps it is well that I should report the other case also. The former case was one in which a tumor was removed. The patient lived a year or two, and died of phthisis. In the case to-day I succeeded in stitching the vagina and the uterus very satisfactorily, and late this evening the patient seemed to be in a very fair condition. Now, I have performed this operation a number of times. You must not suppose I always open the peritoneum; I have opened it twice, but to-day I am satisfied it was detached two-thirds of the circumference of the uterus. If I had used the scissors, as we ordinarily do, I should have cut away as with the écraseur. The écraseur draws the tissue in, and perhaps sacrifices more than the knife and scissors. I suppose that I should have opened the peritoneal sac with the scissors if I had attempted the removal of the tumor with that instrument. So there must be cases in which the vaginal portion of the neck is very short, and where the peritoneum reaches down, close around the lips of the os.

Dr. F. J. Lutz — Do we understand you to have removed the uterus?

Dr. Gregory — No, but I could have removed it without any trouble. But the removal of the uterus is a very serious operation, and certainly a great shock to the system, and I do not think that organ should be removed because the neck is involved in disease, for it is within reach, should the disease reappear.

Dr. W. Johnston — Have you kept a record of how many of those upon whom you have operated, live, and how many are dead? How long did they live, and what proportion died?

DR. GREGORY — I have no written record of the cases; I can remember two or three cases where, two years ago, I performed this operation, and the patients are still living. I make it a rule to make these patients visit me once or twice every two or three months. A lady from Illinois came once in six weeks; there is no sign of a return. The case reported to-day is no more unfavorable than that one.

DR. JOHNSTON — How many are dead?

DR. GREGORY — I cannot say; I acknowledge most of them are dead. I will mention another case or two, in removing these cancers. I remember removing a breast for cancer. The woman lived five years, and then died with brain symptoms.

THE PRESIDENT — The same accident which happened to you happened to Dr. A. J. Simm.

DR. GREGORY — I think it is only a matter of the number of cases that a man has. I am surprised so little is said of it in the books. If a man cuts off enough of them, he will meet with cases now and then where he will have accidents like the one that happened to me to-day.

DR. COLES — I have some curiosity to hear what explanation Dr. Gregory has of the anatomical condition of things that contributed to this accident. I am inclined to think that the disease itself had a good deal to do with the drawing of the peritoneum into close proximity to the os. I am watching a case in conjunction with a physician from Illinois where this condition is well marked. It would be a great risk to amputate the cervix in this case with the écraseur. Another point is, that in a large majority of cases of cancer of the uterus there is a tendency to flexion of the uterus in women who have borne a number of children.

DR. GREGORY — It has occurred to me that the portion of the vagina inserted in the neck was made friable by the disease; it is barely possible the vagina, at its insertion in the neck, may have been softened by cancerous infiltration. I have seen a number of cancerous breasts smaller than healthy ones. A great pathological feature of cancer is stroma. After it is formed it contracts, and it draws the tissue not implicated. The contraction characteristic of stroma is one of the most interesting features to the conservative surgeon, because it is supposed the contrac-

tion in this stroma tends to strangulate the vessels. The cicatricial contraction tends to cut off the flow of blood to the epithelial material. I have declined to operate where the contraction was a marked feature, and the party has reached a fair old age. I declined because I felt that the stroma was controlling the circulation of the cancer—that there could be very little multiplication in the new material that formed the new cancerous era, as the marked growth of cancer depended on the multiplication of the cell structures. The contraction placed in abeyance this multiplication, and consequently this increased growth is prevented.

Dr. A. C. Bernays — Some time since Dr. Saunders informed the Society that in Vienna the peritoneum had been opened thirty times in succession while amputating the vaginal portion of the womb, and that all these cases recovered. While I was there I heard persons speak of such cases, and the Professor of Gynæcology, Henry Braun, thought it was not wrong or dangerous to open the peritoneum.

Dr. Johnston — I have no doubt that Dr. Gregory performed the operation with all the skill it is admitted he possesses. I have no doubt that my young friend, who has been in Vienna, did not remain long enough to see whether they recovered or whether the grave covered them. Dr. Gregory acknowledges that the grave covered many of his cases. Some of the profession are indoctrinated in the German pathology, as taught by Virchow, that disease has its origin in a local cell. Is that a fact? John Simon has demonstrated that the trouble lay in the previous condition of the system.

Dr. Gregory — I wish to call attention to the fact that in the two cases reported the patients are yet living, and the result has justified the operation.

Dr. G. Hurt — I take issue with Dr. Johnston in regard to the origin of cancerous and other malignant growths. There is a great difference between a predisposition to a disease and the disease itself. The diathesis is not the disease at all; the microscope does not show, neither does pathology show it. There is no poison in the system to constitute that predisposition, and the eruption of the disease itself at its first appearance may be due, especially in the case of cancer, to local irritation; it may also be

due to mal-nutrition, and the mal-nutrition may stand just behind the local irritation, which may fall upon some particular organ or tissue.

DR. J. S. MOORE — I am of the opinion that cancer is always dependent on a constitutional diathesis; it requires constitutional treatment. I understand also that the cancerous diathesis and the tuberculous diathesis exist in different individuals in different degrees of strength. A person may be born with a tuberculous or cancerous diathesis and yet never have tuberculosis or cancer. Sometimes the diathesis is aided by some local cause. A woman may have the cancerous diathesis very weak, and she may accidentally receive a bruise. If the injury is operated on before the cancerous matter is absorbed into the system she may be permanently cured, but if it be neglected, the cancerous juice will be absorbed and developed locally.

DR. HURT — I agree with the last speaker, that a certain diathesis is required for cancer. I will go further, however, and say it is not of necessity absolutely hereditary. I am almost disposed to assert the transmutability of one predisposition into the diathesis of another predisposition.

DR. COLES — The practical question comes up as to the course we would pursue in such cases. I know of two or three cases in which I am satisfied the lives of the patients were saved by the means of an operation.

DR. PREWITT — This is a constantly recurring question—the constitutional or local origin of cancer. It involves a practical question. As one of the speakers stated, there is a diathesis that produces cancer. Sometimes the cancer returns after an operation, because of the infiltration of the tissues. Many cancers have been removed and never returned, because the local manifestation has been got rid of.

DR. BERNAYS described at some length the course through which a cancerous disease usually runs before it ends in death, and advised the early removal of cancerous growths before the system has become infected from the local disease.

Saturday, January 31, 1880.

Epithelioma of the lids of the Right Eye.

Dr. A. D. Williams—Twelve months ago I cured a case of epithelioma of both lids of the right eye by electricity, or what is called the lectrolytic action of electricity. As no one in the discussion during the last evening alluded to that method of treatment of cancer, I thought I would report this case this evening and have it go on record on the heels of that discussion.

An old gentleman, from Southern Kansas, about twelve months ago came to me for an affection of the right eye, which he had had for some considerable time. I found an epithelioma of both lids. The lids had about one-half sloughed away by the cancerous ulceration; it had attacked apparently the edges of the lid about the middle and had extended upward and on either side, so that about one-half of the surface of both lids were destroyed by the disease. The extreme corners of both lids were intact; the ulcer extended into the substance of the lids in a semi-lunar form along their central portion, it being deepest at the middle of both lids. The tarsal cartilages were nearly destroyed. The cancer had extended along the palpebral conjunctiva, until it had passed across the *cul-de-sac*, and reached the surface of the eyeball, so that the ocular conjunctiva, also, was involved in the process. The *cul-de-sac* was obliterated by the contraction, so that when the remnants of the upper lid were pulled away from the ball, a band of the conjunctiva, infiltrated with cancerous material, could be seen stretched across to the eyeball, showing the cancerous process had actually reached the eyeball through the conjunctiva.

The cornea had sloughed sometime previous to his visit to me; the eyeball being partially exposed by the extensive destruction of the eye lids, the atmosphere had caused the sloughing of the cornea, which of course made him completely blind in that eye. The ulceration was still going on quite rapidly when I saw him. I asked my friend Dr. Dickinson to see the case with me, and he on examination concurred with me in the diagnosis, namely, that it was an epithelioma. The eyeball was removed while he was under the influence of chloroform. This was

done to save him from intense suffering, and in order to be able to treat the cancerous trouble more perfectly. After I removed the eyeball, I applied various escarotics, such as chloride of zinc, chromic and carbolic acids to the cancerous granulations, with the effect, apparently, of increasing or stimulating the trouble. I concluded that as nothing was to be gained by their use, I would try the effect of electricity. I devised an electrode. It consisted of four ordinary sewing needles stuck through a cork, so that they were parallel to each other, and their points were on a level. Between the blunt ends of the needles, thus fastened in the cork, I passed the end of the negative wire from the battery, and wrapped silk thread around the whole, so as to bring all the needles in contact with the wire, and at the same time to insulate them, so as to enable me to handle the electrode thus made without receiving the electrical charge. I inserted the points of these four needles into the cancerous granulations deep enough to reach what I supposed would be healthy flesh. I completed the circuit by having the patient hold in his hand the wet sponge of the positive pole. I used an eight-cell galvanic battery. After closing the circuit, I allowed the current to run for a few moments during each insertion of the needles, say from one to three minutes. The electrolytic process went on during the time the circuit was closed. I continued the needles in one place until the cancerous granulations seemed to be cooked, or changed completely, and then I removed them to another point, and so on until I treated the whole granulated surface. I was careful to apply them to every point where I could see cancerous granulations. During the time that the needles were in contact with the flesh and the current was allowed to run, a white foam would come up around the needles. This gas was of course hydrogen escaping from the decomposition of the watery portion of the flesh.

I treated the case in this way for several days in succession. Each time I was careful to treat all the cancerous granulations I could see, always letting the current continue with each successive insertion of the needles, until all the granulations were apparently cooked. On the tenth day, after I began this treatment, the old gentleman was compelled to return home. Before he left, the granulations had mostly disappeared. After he returned to Southern Kansas he had no further trouble from his eye. Suppuration from the conjunctiva, and from the edges of the lids ceased in a short time, and the ulcerated surface con-

tracted and cicatrized, so that he had no further annoyance from it.

About six months after the above treatment, I was in Southern Kansas, and I purposely called to see him. I found him suffering with a low form of typhoid fever. That was about the first of last August. It was a mild attack which he had had several weeks before I saw him. At that time there was no trace of epithelioma on the lids, or on the conjunctiva, or any where else. The lids had contracted and cicatrized, so there was not a trace of the cancerous process visible. That was the first case that I have treated with electricity, and I think the result was quite flattering. I do not propose it as a universal remedy for epithelioma, but it certainly did well in that particular instance.

Dr. Prewitt — Did you apply it only to the granulated surface?

Dr. Williams — Only to the cancerous granulations. I stuck the needles down, say a quarter of an inch, into them, and allowed the current to run one to three minutes, until the granulations at that point were apparently cooked; then I moved the needles to other points, and so on, till I made the application to all the cancerous surface.

President Maughs — Do you know of any other cases that have been treated that way?

Dr. Williams — I got the idea from Althaus' work on the use of electricity in affections of that kind, but I do not remember that he reports a case of epithelioma cured in that way.

President Maughs — Inquired if Dr. Gregory had had any experience in that way.

Dr. Gregory — I have no experience in the use of electricity in such cases. I reported a case here last Saturday upon which I *believe* I performed an operation, and I am glad to say that the woman has recovered. There were no bad symptoms. In this case I used ether instead of chloroform, because it is generally considered to be a safer remedy than chloroform; this is the popular and professional belief, and I used it for that reason. I prefer chloroform. I have used chloroform twenty-five years, and I have had but one mishap. I mention it for the reason that the

patient was a colored person. I have read that colored people were more frequently the victims of chloroform than the white race. Whether that is true or not, I am not prepared to say.

DR. WILLIAMS — The professional pendulum has now commenced to go in the opposite direction in regard to the comparative safety of ether and chloroform. It strikes me that physicians now think there is as much danger from ether as chloroform. In sympathy with the professional feeling I began the use of ether. I disliked its effects, and now give chloroform regularly. I think my patient is about as safe as when I use ether, and history will show as many accidents happening from ether as from chloroform.

DR. GREGORY — I sympathize with Dr. Williams, and hope I will be permitted to use chloroform; I certainly prefer it as an anæsthetic.

DR. PREWITT — As to the case reported, by Dr. Williams, if his diagnosis is correct—and I would not call it in question—it would certainly be a remarkable effect from the action of the battery. I understand him to say he applied the needles only to the ulcerated surface, and to a moderate depth. Unless the electric action passed all through the growth, it could not be expected that the action on the ulcerated surface would cure epithelioma. In these cases the difficulty is in getting rid of the infiltrated tissue about the tumor. When we cut it out, we often find that there is infiltration beyond the line of incision. If electric action on the surface is to cure these things, the effect must extend far beyond the surface acted upon by the means. We would hardly expect that to be the case with the action of the battery as he details its use. In this case it is said to have been sufficient, not only to have destroyed the epitheliomatous growth, but it should have acted on the cells for some distance beyond. It seems remarkable such results should follow. I doubt exceedingly whether we should have any such results in other cases.

DR. WILLIAMS — I will say that in pressing the needles into the granulations, my object was to pass them through the granulated tissue, and deep enough to have them reach what I supposed to be healthy tissue. There was no tumor; it was an open, sloughing sore. Of course I did not expect such a result. I ex-

pected he would have trouble when he got home, but he did not. When I saw him it had healed nicely. So far as the diagnosis is concerned, I believe it to be a case of epithelioma, and Dr. Dickinson concurred in this opinion.

Dr. C. H. Hughes — In the *Alienist and Neurologist* for January may be found an explanation as to the method of the action of electricity in reducing morbid growths. It is a translation from the *Gazette Hebdomdiaire* on "the Effects of Cephalic Electrization," by Dr. Ch. Letournian. Doctor Laborde assisted him in the experiment on a kitten a month old, in which the cranial wall was still very thin, and was quite easy to cut; a considerable portion of cranium was cut out on the left side. The dura mater being so exposed it was very easy to see with the naked eye, and still better with a magnifying glass, the arterial and venous branches which ramify upon the surface. They proceeded then to the electrization, making use of the small portable pile for continuous current of MM. Onimus and Brown. This pile contains eighteen elements, and they took care, by the aid of a galvanometer, introduced into the circuit, to assure themselves that the passage of the current was effected regularly. During all the duration of the experiment, the positive pole was placed behind the right ascending ramus of the inferior maxilla, and the negative pole upon the anterior cranial region above the eyes.

"Ten or fifteen seconds after the closing of the circuit, the fine arterial branchings of the dura mater became less and less visible, and a little later the venous branches themselves became pale. At each interruption of the current the anæmia increased for an instant, then the vessels resumed, little by little, a little larger caliber.

"The experiment repeated a number of times gave always the same results, determined successively by Doctors Duval, Laborde, Condereau and themselves. The dura mater of the right side having been denuded in its turn, the experiment was repeated, which, on this side, again gave the same results. They pursued the experiment, cutting out on the left side a portion of the dura mater. The pia mater being thus exposed, and its vascular branches, arterial and venous, being very visible upon the gray ground of the cerebral substance, the same observations were made upon it. There, also, we could obtain at will, contraction of the vessels.

"The experiments just related," they go on to state, "added to facts cited in the commencement of this paper, *put it beyond doubt that it is possible, even easy, to produce in man a temporary anæmia of the brain, by means of suitable electrization;* but the therapeutical bearing of this fact should not escape the physician. *For this temporary anæmia can, without the least inconvenience, be renewed a great number of times daily if one wishes;* and our personal experience permits us to affirm that, with a little persistence, one may triumph so over various congestive states of the brain, manifesting themselves either by the simple depression of the intellectual faculties or by psychical disorders of varied nature."

In support of the preceding statement they cite a typical case of chronic congestion of the brain, which yielded to electrization repeated persistently, but which we omit. I have been in the habit for several years of using electrization for the purpose of arresting cerebral hyperæmia.

DR. DICKINSON — How do you apply the galvanism?

DR. HUGHES — In various ways, the positive pole to the left temple and the negative to the right occipito-vertebral junction, and *vice versa*; sometimes pass it transversely through the temples, though generally from the seventh cervical vertebra following the cervical sympathetic in the brain. The opening and closing of the circuit so acts on the vaso-moter system as to contract the vessels and diminish the morbid activity resulting from cerebral hyperæmia. If you can arrest morbid growth by strangulating it with a ligature, you can arrest it by the use of electricity.

DR. W. DICKINSON — I had the pleasure of seeing the case reported by Dr. Williams, and I have no doubt myself of the character of the disease. The result certainly exceeded my expectations. I have had three cases of epithelioma, located on the globe. The first case was six or seven years ago; it was limited to a small space, and it disappeared. In the second case I removed the diseased part with a knife; what remained I cauterized. The patient left the city, and at the expiration of a year, returned. It had re-formed a little, but not so much as at first. I pursued the same course, and I have written to him to know the result. There is no regeneration of the mass. The third

case was one I treated in a similar manner, removing what I could; by that process it was diminished one-third. It returned on account of its regeneration, and on this occasion I had the pleasure of being assisted by my friend, Dr. Gregory. The remedy adopted was excision and the patient recovered.

Œdema of the Epiglottis.

Dr. Wesseler — Presented a pathological specimen, and said: I have a case to present of œdema of the epiglottis. The man was æt. 34 years, German, unmarried, and of very spare build. He had been in the Alexian Brothers' Hospital previously. At the time he was admitted he was very much emaciated. He was, as a rule, unable to retain food, and when his stomach did retain anything it was quickly passed away by the bowels, undigested. He was discharged in September, and came to my office about New Years, asking to be readmitted. He had been unable to do labor, and had a cough and sore throat. He had been a member of a singing society, and lost his position on account of inability to sing, suffering from laryngitis. There was considerable trouble in his larynx. Last Sunday he was about. On Monday morning, on visiting the hospital, I found him in a dying condition. He was suffering very much as a child dying from croup; had all the symptoms, and had the distress that children have when they die of croup. Next morning he was dead. I have looked through various works on practice, and have read that the case is fatal in almost every instance, and Niemeyer says that blood-letting, blistering, purging and fomentations, applied as they generally are, are of no avail. Although tracheotomy might be performed, there is little to be hoped from it. In these cases the constitutional disturbance is such that the patient usually will not recover.

[A recess was here taken, and the members of the Society examined the specimen under consideration.]

President Maughs requested Dr. Lutz to state what was his experience in the case.

Dr. Lutz — My experience in this case was at the post mortem. The infiltration of the epiglottis is due to the inflammation of the larynx. As you have seen, two large ulcers are situated on both sides, above the vocal cords. The trachea is not involved. As a palliative measure, perhaps tracheotomy could

have been performed. The man suffered from tuberculosis, and had cavities in both lungs, and his hours were numbered. Only as a palliative measure would an operation have been justifiable.

Book Reviews.

The Cell Doctrine: Its History and Present State. By James Lyons, M. D., Prof. of General Pathology and Morbid Anatomy in the University of Penn., etc., etc., 2d Ed. Lindsay & Blakiston publisher, Phila., p. 199. 1879.

This is a very interesting and readable book, in which we have presented a very clear statement of the views of many microscopists and pathologists in regard to the origin, position and function of the cell in living organisms. The general reader will find here all that has been written on the subject, which it is important for him to know, and after he has bestowed as much study on these pages as they deserve, he will find himself much more familiar with the subject than when he began it. We feel that we cannot too highly commend the work to those who desire to know a good deal about the cell.

The cell is now known to play a most important part in living organisms; and what we have in Prof. Lyon's work will serve as a solid basis on which to stand to take a further and wider view of the Cell Doctrine. The cell is certainly the basis of a rational view of Histology; and it is now an almost self-evident truth that the origin, structure and function of the tissues cannot be well understood without a clear view of their relation to cell-organism. The tissues are certainly the result of the defferentiation of cells; but just how this defferentiation takes place, or on what ground it is to be accounted for, has not been explained by any of the writers quoted in this work. It is certainly true that all the different tissues were potentially present in the fecundated germ-cell; but what is the cause of the defferentiation observed, the author has not explained, nor, indeed, suggested any rational view. This may not have been within the purpose of the work, yet the subject is one of such importance as to merit some consideration. The work should be in the hands of every physician.

H. Christopher.

Higiene de la Vista. Por el Doctor D. J. Santos Fernandez. Obro prennada por la Real Academie de Ciencias de la Habana, en 1875; aumentada, reformada y publicada baja la direccion del antor por D. Elisdora Arias Gago, Médico Militar. [Habana: Le Propaganda Literaria, O'Reilly, num. 54, 1979. 16 mo.; pp. 272.]

Hygiene of the Eyesight. By Dr. D. J. Santos Fernandez. Prize Essay, presented to the Royal Academy of Medical Sciences of Havana, in 1875; enlarged, revised, and published under the direction of the author, by D. Elisdoro Arias Gago, Military Surgeon. [Havana: The Propaganda Literaria print, No. 54 O'Reilly street, 1879; 16mo.; pp. 272.]

This little work, written by the editor of the *Cronica Medico Quirurgica de la Habana*, is one which ought to be translated into our tongue, as it would certainly find a large number of readers. It is terse and clear, and embraces a large and varied number of subjects connected with the care and preservation of the eyesight. Beginning with the eyesight in childhood, he passes all the different phases undergone till glasses are used. The relations of trades are discussed, as also the effects of food, drink, and the passions. The chapters on spectacles and spectacle frames are interesting, as well as that on opera glasses. The precautions to be used by those employing artificial eyes is the last and not least useful chapter. This is followed by a bibliography of the subject. Dr. A. H. Ohmann-Dumesnil.

Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble Minded Persons. Sessions: Syracuse, June 8–12, 1878; Lincoln, May 27–30, 1879.

These proceedings make a good showing and indicate progress. At the two sessions a number of excellent and instructive subjects were presented. Dr. Shuttleworth discoursed on the subject of intemperance as a cause of idiocy; Dr. Fletcher Beach, on temporary loss of speech from shock; Mrs. C.W. Brown, on the offspring of first cousins; Dr. Seguin, on recent progress in the training of idiots; Dr. C. T. Wilbur, on the relation of speech or language to idiocy; Dr. H. M. Knight, on internal hydrocephalus, and Dr. Isaac N. Kerlin, on juvenile insanity. After which follows "statistics of the work before the people and legislatures," showing altogether, very satisfactory progress.

The proceedings were throughout interesting, and all the papers creditable.

It is gratifying to see the feeble-minded in the care of such able-minded men.

The superintendents of the institutions of the idiotic and feeble minded possess a love for psychical investigation, coupled with an earnest philanthropic spirit.

C. H. Hughes.

Books and Pamphlets Received.

Transactions of the American Otological Society. Twelfth Annual Meeting, Newport, R. I., July 23, 1879. Vol. II, part 3. [Boston, 1879.]

Hints on the Antiseptic Management of Wounds. By Francis M. Caird, M. B. [Edinburgh, 1880.]

Treatment of Diphtheria. By Ira E. Oatman, M. D., of Sacramento, Cal.

The Answer of the New York Neurological Society to the Document known as the Report of the Committee on Public Health Relative to Lunatc Asylums. [New York, 1880.]

On the Medical Uses of Electricity. By George W. Balfour, M. D., F. R. S. E. London Eng.

The Regulation of Medical Practice by State Boards of Health, as Exemplified by the Executive of the Law in Illinois. By H. A. Johnson, M. D., Chicago Ill.

Paquelin's Thermo-Cautery, with Wilson's Arithmetic Shield, in Epithelioma of the Cervex Uteri. By H. P. C. Wilson, M. D., Baltimore, Md.

A Copy of a Circular Address to the Legislature of the State of New York. The Petition of the Undersigned Physicians, Lawyers and other Citizens of the State of New York.

A Protest Against Meddlesome Midwifery. By H. Gibbons, Sr., M. D. [Read before the San Francisco County Medical Society.]

Report of the Special Committee on Medical Education before the Illinois State Medical Society, at its Twenty-ninth Anniversary Meeting, held at Lincoln, May, 1879. E. Ingalls, M. D., Chairman Committee. [Chicago, 1879.]

A Clinical Lecture upon the Operation for Inversion of the Lower Eyelid. By F. C. Holtz, M. D. Reprinted from the *Chi-*

cago Medical Journal and Examiner for January, 1880. [Chicago, 1880.]

The Student's Guide to Diseases of the Eye. By Edward Nettleship, F. R. C. S. With eighty-nine illustrations. For sale by the Hugh R. Hildreth Printing Company, St. Louis; pp. 369; large 16mo. [Philadelphia: Henry C. Lea, 1880.]

Clinical Lectures on the Diseases of Women, delivered in St. Bartholomew's Hospital. By J. Matthews Duncan, M. D., LL. D., etc.; 8vo.; pp. 175. For sale by the Hugh R. Hildreth Printing Company, St. Louis. [Philadelphia: Henry C. Lea, 1880.]

Pharmacographia. A History of the Principal Drugs of Vegetable Origin met with in Great Britain and British India. By Friedrich A. Flückiger, Phil. Dr., and Daniel Hanbury, F. R. S. Second edition; 8vo.; pp. 808. For sale by the Hugh R. Hildreth Printing Company, St. Louis. [London: Macmillan & Co., 1879,]

On Loss of Weight, Blood-spitting and Lung Diseases. By Horace Dobell, M. D. Second edition; revised, enlarged and annotated; to which is now added Part VI, on the Functions and Disorders of the Liver; 8vo.; pp. 306. [London: J. & A. Churchill, 1880.]

The Sanitation of Small Cities; Soil, Drainage, Sewerage, and the Disposal of Sewage. By David Prince, M. D. [From the Transactions of the Illinois State Medical Society for 1879.]

Biennial Report of the Missouri Eye and Ear Infirmary, 1304 Chestnut street. From June 26, 1877, to June 26, 1879; act of incorporation. [St. Louis, 1879.]

Valedictory Address to the Graduating Class of the Medical Department of the University of California, By W. F. McNutt, M. D., L. R. C. P., Ed., etc. [Reprinted from the *Western Lancet*, December, 1879.]

The Second Annual Report of the Presbyterian Eye and Ear Charity Hospital, No. 77 East Baltimore street, Baltimore, Md. For the year ending December 1, 1879. [Baltimore: Innes & Co.]

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—JANUARY, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	29.0	39.0	18	39.0	63.5
2	37.5	57.0	19	48.5	59.0
3	49.0	64.5	20	42.5	45.0
4	55.0	1.0	21	36.5	51.5
5	51.0	64.0	22	34.0	36.0
6	54.0	61.0	23	29 5	43.0
7	51 0	61.0	24	32.0	48.5
8	48.0	54.0	25	37.0	56.5
9	52.5	62.0	26	38.5	58.5
10	33.5	49.0	27	39.0	62.5
11	45 0	**66.5**	28	34.0	38.0
12	34.0	41.0	29	32.0	4 .0
13	29.5	42.5	30	35.0	55.5
14	32 0	38.5	31	**25.0**	39.5
15	28.5	43.5			
16	35.0	68.5	Means	39.0	52.6
17	41.5	55.0	Monthly Mean	45.8	

Quantity of rainfall, 3.71 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM JANUARY 11, 1880, TO FEBRUARY 7, 1880, INCLUSIVE.

Diabetes	1	Exhaust. I'm Lab.	4	Convulsions & Trismus Neonatorum	19
Measles	4	Inanition, Want of Breast Milk, etc.	4	Cyanosis and Atelectasis	
Syphilis	0	Alcoholism	4	Hydrocephalus and Tub. Meningitis.	4
Scarlatina	3	Rheumat'm & Gout	1	Premature & Preternatural Birth	
Pyæm.a & Septicæ	3	Cancer and Malignant Tumor	9	Meningitis & Encephalitis	5
Erysipelas	3	Phthisis & Tuberculosis, Pulmon.	68	Deaths by Suicide	1
Diphtheria	17	Bronchitis	9	Other Diseases of the Brain and Nervous System	7
Membran's Croup.	10	Senility	28	Deaths by Accid't	9
Whooping Cough.	2	Pneumonia	32	D'ths by Homicide	3
Diabetes Meli tus.	4	Heart Diseases	21	Cirrhosis of Liver and Hepatitis	7
Post Part. Hem'ge	1	Other Diseases of Respir'y Organs	17	Congen Detor'ty	18
Typhoid Fever	10	Osteomyelitis	0	Enteritis, Gastro-Enteritis, Peritonitis, and Gastritis	11
Cerebro Spinal Fe.	0	Marasmus — Tabes Mesenterica and Scrofula	18	Total Zymotic Diseases	89
Remittent, Intermittent, Typho-Malarial, Congestive & Simple	9	Aneurism	0	Bright's Disease and Nephritis.	2
Contin'd Fevers,	9			Other Diseases of Urinary Organs.	
Puerperal Fevers	9			Atheroma Arta.	1
Diarrhœal Disea's	11			Apoplexy	6
				Total Constitutional Diseases	104
				Total Local Diseases	136
				Total Develop'tal Diseases	26
				Deaths by Viol'ce	13

CHAS. W. FRANCIS, *Health Commissioner.*

1843. PREMIUMS 1880.

FOR THE

ST. LOUIS MEDICAL AND SURGICAL JOURNAL

FOR 1880.

Those who are acquainted with medical periodicals will see at once that the ST. LOUIS MEDICAL AND SURGICAL JOURNAL is the largest publication for the price in the United States or even in the world. For this reason it seems superfluous to offer premiums to its subscribers. In fact the instruments and books are offered more as a convenience to the profession than as inducements. As the number of instruments to be given as premiums will be quite large, I have been enabled to make such arrangements with Messrs. Alex. Heburn & Co., of this city, that I can offer them to *subscribers* at a reduction from catalogue prices. If the reduction is not great it is because both the instruments and the JOURNAL are FIRST-CLASS. Those taking them are SURE to get their money's worth. Upon the receipt of the sums set opposite the various offers mentioned below I will send the JOURNAL and Premiums paid for.

Reports on Yellow Fever to St. Louis Medical Society, 328 pages, $2.50, and the Journal, for - - - - - $4.00

Proceedings of St. Louis Medical Society for 1878, $1.50, and the Journal, for - - - - - - - - - 3.75

Reber on Paresis of the Sympathetic Centers, $1.00, and the Journal, for - - - - - - - - - - 3.50

Borck on Fracture of the Femur, 50c, and the Journal, for 3.00

	Price.	With Journal.
Wilde's Ear Speculum, Set of three	$2.50	$4.50
Lorribee's Ear Speculum, Set of three	3. 0	5.25
Frankel's Nasal Speculum	2.50	4.50
Probang (bristle) for removing foreign bodies from the throat	2.50	4.50
Sims' Speculum, Nickel Plated	2 50	4.50
Sims' Improved Speculum, Nickel Plated	4.00	5.50
Nott's Trivalve Speculum, Nickel Plated	5.00	6.50
Rectal Speculum	6.00	7.50
Powder Insuflator	2.00	4.50
Vulcellum Forceps	3.00	5.50
Uterine Dressing Forceps	2.50	4.75
Set of Three Nasal Curetts	2.50	4.75
Hypodermic Syringe, Metal Case, Graduated on Bowl or Piston	2 50	4.75
Double Bladed Knife	2.50	4.50
Goulay's Catheter	3.00	5.00
Four Jaques' Cathether	3.00	5.00
Four French Bougies or Catheters	3.00	5.00
Self-Regulating Fever Thermometer, Contracted stem, guarat'd correct	3 00	5.25
Sims' Curett, blunt	2 00	4 25
Extra Quality Tooth Forceps, Nickel Plated	3.00	5 25
Martin's Elastic Bandage	2.00	4 50
Esmarch's Tourniquet for Bloodless Operations	3.50	5.75
Set of Eight Rumbold's Spray Tubes, each in a box	4.00	6.00
One Double Bulb for Atomizing	2 50	4 50
One Pair Hodge's Obstetrical Forceps, Nickel Plated	7.00	8.75
" Haie's	7.00	8.75
" Sawyer's	9.00	10.25
" Elliott's	9.50	11.00
" Attir's Dilator	3.50	5.50
" Ellinger's Dilator	9.00	10.25
" Loamir's Placenta Forceps	3.00	5.50
" Placenta Forceps	3.00	5.50
One Set Barns' Dilator	4 50	6.50
Rumbold's Middle Ear Inflator, with Rubber Bulb	1 50	4.00
" Catheter Nasal Douche	4 50	6.50
" Tongue Depressor	6 00	8 00
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Any of the above Goods or their equivalent credited to any other Goods that may be higher priced. All of the above named Goods are FIRST CLASS.

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Coto Bark.—From Bolivia. Almost a specific in acute and chronic diarrhœa, cholera, cholera morbus, etc.

Cascara Sagrada.—(Rhamnus Purshiana.) From the Pacific Slope. A certain remedy for habitual constipation: and very useful in all cases where a laxative or cathartic is indicated. Beware of the fluid extracts of spurious varieties of this bark.

Folia Carobæ.—From Brazil. A powerful alterative, which exerts a marked curative action in syphilis, scrofula and kindred disorders.

Rhus Aromatica.—A remedy in diabetes, and other diseases of the genito-urinary organs.

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Berberis Aquifolium.—From California. Has marked alterative and tonic powers, and has been used with extraordinary success in salt rheum, psoriasis, eczema, scrofula and syphilis.

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Grindelia Robusta.—From California. A valuable curative agent in asthma and diseases of the air passages.

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Cereus Bonplandii.—(Cereus Grandiflorus and Cereus McDonaldii.) From Mexico. Heart sedatives. Very useful in controlling functional and organic disturbances of the heart.

Kaki.—(Dyospyros Kaki.) From Japan. Peculiar action on the mucous surfaces. Useful in mucous dyspepsia, typhoid fever, etc.

Cercis Canadensis.—Indigenous. A positive remedy in chronic diarrhœa, dysentery etc.

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Goa Powder, [ringworm and diseases of the skin].

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SUGAR COATED GRANULES.

Calcium Sulphide, 1-10 gr, [for the cure of boils and carbuncles.]

Our limited space prevents our describing in detail the history and application of each remedy but to those interested in New Remedies, we will say, that we can furnish interesting information relative to the above new drugs.

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